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CONTENTS

NEW ENGLAND SURGICAL SOCIETY

HEMORRHAGE FROM THE STOMACH AND ŒSOPHAGUS.
By Fred B. Lund, M.D., and John A. Foley, M.D., Boston.

LACERATED WOUND INTO KNEE-JOINT, TREATED BY COMPLETE CLOSURE AND IMMEDIATE ACTIVE MOBILIZATION. *By Lyman Allen, M.D.*, Burlington, Vt.

ORIGINAL ARTICLES

PROSTATIC TROUBLES FROM THE PRACTITIONER'S VIEWPOINT.
By Richard E. Dickson, M.D., Holyoke, Mass.

THE DIAGNOSIS OF SOME CHRONIC SHOULDER INJURIES.
By William Pearce Coues, M.D., Boston.

FRACTURE DISLOCATION OF THIRD CERVICAL VERTEBRA. *By Louis A. O. Goddu, M.D.*, Boston.

CLINICAL DEPARTMENT

BENIGN GROWTHS OF THE STOMACH. *By A. S. Merrill, M.D.*, Boston.

EDITORIALS

MATERNITY BILLS BEFORE THE LEGISLATURE.

THE DUTY OF THE MEDICAL PROFESSION IN REGARD TO LEGISLATION.

For complete table of contents, see first text page.

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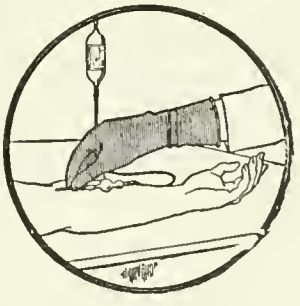

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Miscellany.

THE FORAMEN OF MAGENDIE.—The following interesting comments on the existence of the foramen of Magendie have been published in a recent issue of *The British Medical Journal:*

"The perforation in the roof of the fourth ventricle, described a century ago by Magendie, and the lateral orifices in the same structure, known variously as the foramina of Retzius, Key, or Luschka, though described in practically all textbooks of anatomy, have not always been recognized by anatomists as existing in the living subject. The existence of the median opening, Magendie's foramen, was denied by Kölliker, Cruveilhier, and others. Cannieu has been the only observer to doubt the presence of the foramina of Retzius. The critics maintained that these holes were artificially produced during dissection. Injection experiments, substantiating their existence, cannot be altogether accepted, for the roof of the fourth ventricle is so extremely fragile that if colored fluids injected are found to pass from the spinal theca to the ventricles, one cannot be certain that a rupture of the velum was not produced, especially in the cadaver. Coupin has studied the question in small mammals such as mice, rats, guinea pigs, young cats, and young rabbits. He states that in the case of rabbits, if the region of the bulb is examined immediately after death, without making any traction on the bulb or the cerebellum, the covering of the fourth ventricle appears to be perfectly continuous, but that if the examination is made several hours after death and traction is put on the cerebellum, a hole comparable to the foramen of Magendie is often produced. As the result of examining serial sections of the brains of the animals mentioned, he says that the foramina of Magendie and of Retzius can be shown not to exist. He fixed his specimens and subsequently decalcified the bony encasement in order to obviate *post-mortem* changes and to protect the finer structures from injury. Under such conditions the sections showed that there was no interruption of the covering either in the middle line or laterally. So far as these observations go, and they ought to be repeated, they indicate that in the smaller mammals, at any rate, there is no direct communication between the ventricular cavity and the subarachnoid spaces."

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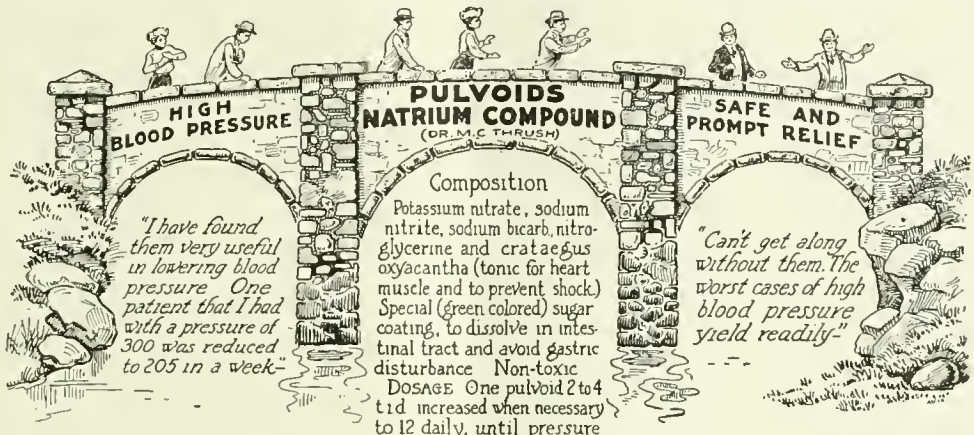
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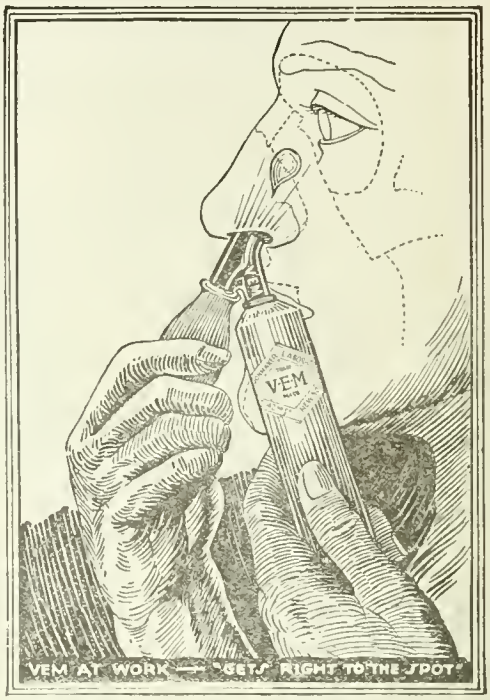

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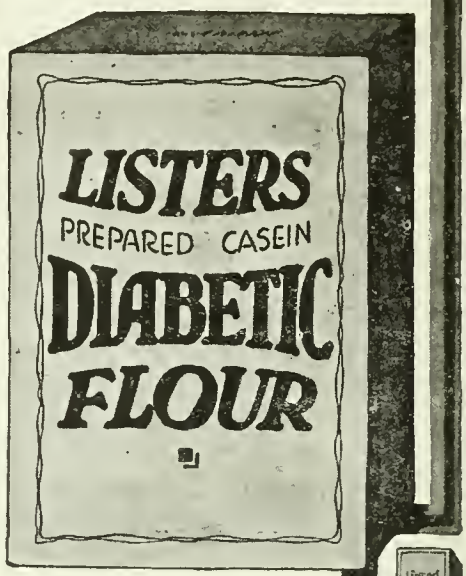

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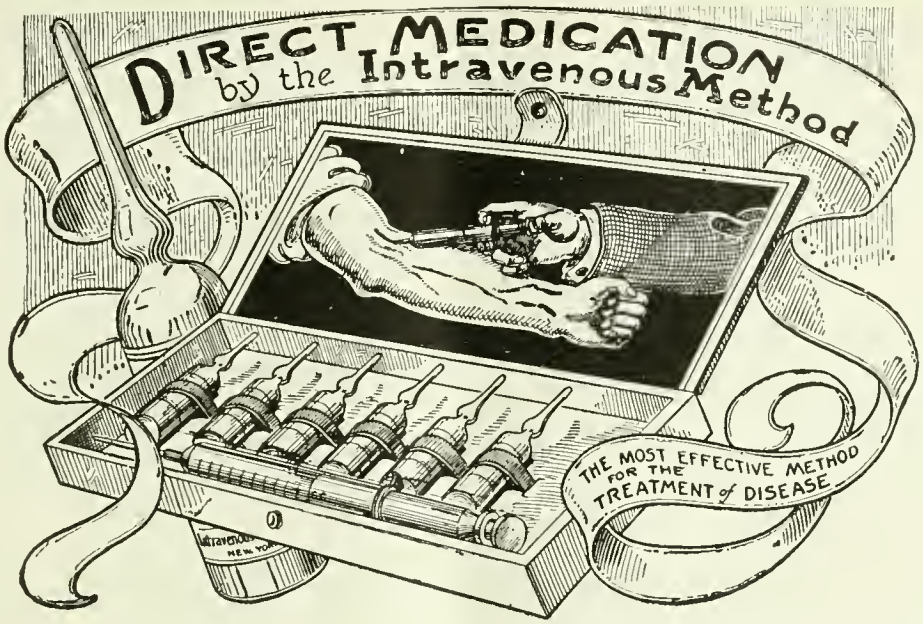

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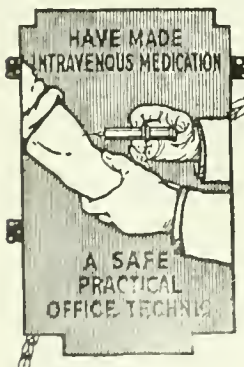

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TABLE OF CONTENTS

February 17, 1921

NEW ENGLAND SURGICAL SOCIETY

HEMORRHAGE FROM THE STOMACH AND ŒSOPHAGUS. *By Fred B. Lund, M.D., and John A. Foley, M.D.*, Boston. 163

LACERATED WOUND INTO KNEE-JOINT TREATED WITH COMPLETE CLOSURE AND IMMEDIATE ACTIVE MOBILIZATION. *By Lyman Allen, M.D.*, Burlington, Vt. 167

DISCUSSION OF PRECEDING PAPERS. 169

ORIGINAL ARTICLES

PROSTATIC TROUBLES FROM THE PRACTITIONER'S VIEWPOINT. *By Richard E. Dickson, M.D.*, Holyoke, Mass. 172

THE DIAGNOSIS OF SOME CHRONIC SHOULDER INJURIES. *By William Pearce Coues, M.D.*, Boston. 176

FRACTURE DISLOCATION OF THIRD CERVICAL VERTEBRA. *By Louis A. O. Goddu, M.D.*, Boston. 179

CLINICAL DEPARTMENT

BENIGN GROWTHS OF THE STOMACH. REPORT OF TWO CASES. *By A. S. Merrill, M.D.*, Boston. 181

EDITORIALS

MATERNITY BILLS BEFORE THE LEGISLATURE. 184

THE DUTY OF THE MEDICAL PROFESSION IN REGARD TO LEGISLATION. 185

MEDICAL NOTES. 186

CORRESPONDENCE

DIPHTHERIA ANTITOXIN IN CHELSEA. *R. Guralnick*, East Boston. 187

USE OF BENZYL BENZOATE FOR AFTER PAINS. *Laurence C. Chisholm*, Allston, Mass. 188

TRANSPORTATION OF HABIT-FORMING DRUGS. *E. H. Lewinski-Corwin, Executive Secretary*, New York. 188

MISCELLANY

RESOLUTIONS ON THE DEATH OF DR. SAMUEL J. MELTZER. 187

SOCIETY NOTICE, ETC. 188

New England Surgical Society

HEMORRHAGE FROM THE STOMACH AND OESOPHAGUS.

BY FRED B. LUND, M.D., AND JOHN A. FOLEY, M.D., BOSTON.

HEMORRHAGE from the stomach and oesophagus forms an interesting and important subject for study. Upon a correct diagnosis of the cause, important indications for treatment often depend. Hemorrhage from the oesophagus is here considered together with hemorrhage from the stomach, because such hemorrhage if profuse may result in the vomiting of large quantities of blood, the blood first running from the oesophagus into the stomach and being ejected by vomiting, or, as in Case 2 of this paper, a slow hemorrhage may take place from a small dilated oesophageal vein, the blood gradually leak into the stomach and be passed into the bowel to a sufficient extent to cause a high grade of anemia, without at any time accumulating in the stomach to an extent sufficient to cause vomiting of the blood. It is partly to call attention to this fact that this paper is written. A more important point which this paper is intended to bring out is that profuse hemorrhage from gastric ulcer may in certain cases be best treated by transfusion followed by immediate operation, without long period of waiting, attended by the danger of a recurrence of hemorrhage, which was undoubtedly advisable in the period before we had transfusion as a method of putting our patient quickly in good condition, and before we understood the use of the cautery as a simple and comparatively safe method of treating bleeding superficial ulcers.

It is a curious fact that profuse vomiting of blood comes from two widely different causes, the actual rupture of a varicose vein in the oesophagus, a cause in which we can readily understand the hemorrhage must be profuse, and a diffuse oozing from one or more very superficial ulcerations, abrasions, or "weeping surfaces" in the stomach. Anastomosis of blood vessels in the submucous tissues of the stomach, with the accompanying marked vascularity of its mucous membrane is the reason that these superficial ulcerations bleed so freely, and fill the stomach with blood so fast that vomiting in large amounts occurs. These hemorrhages from the abrasions in the stomach occur usually in young women, the ulcerations are rapid and acute and get well quickly under rest in bed and bland diet. These are, as a rule, best not operated upon. A hemorrhage which is merely the first symptom of gastric ulceration, nevertheless may be so profuse as to strongly suggest

rupture of an oesophageal vein. It is a curious fact that such profuse hemorrhages occur from such dissimilar causes as rupture of an oesophageal vein and oozing from a superficial ulceration. Rupture of an oesophageal vein, however, usually occurs in older patients, and is attended by symptoms of more or less advanced cirrhosis of the liver.

The following case illustrates the fact that cirrhosis of the liver may be the cause of profuse, even fatal hemorrhage from the stomach in a young girl, without previous symptoms of cirrhosis of the liver.

CASE 1. A well developed, well nourished Jewish high school girl of fourteen years of age was admitted to the service of Dr. E. H. Nichols at the City Hospital on November 18, 1919. Previous history unimportant. She came home from school early one afternoon complaining of nausea and during the ensuing night vomited large amounts of bright blood six times. Entering the Hospital at 3 A.M., she was found quite blanched and with an extremely weak and rapid pulse. She continued to vomit blood, and at 2 P.M. on the next day hemoglobin was 37% and the white count 1,300,000.

A transfusion was done, but the veins in the arm were found to be too small to get the tube into, and the saphenous vein had to be used. This also was very small. Only about 100 c.c. of blood could be gotten to run in. The patient died at about 6 P.M., and the autopsy showed a large spleen (695 gm.), cirrhosis of the liver, and varicose veins surrounding the lower end of the oesophagus, one of which, just at the cardia, was shown by injections of methyline blue to have been ruptured. "The surface of the liver showed numerous pea to walnut-sized, round masses and there were dilated veins in the liver."

The veins in the oesophagus are prominent and tortuous, averaging the diameter of a goose-quill. By means of methylene blue injection of these veins a minute leakage is discovered in one of the veins exactly at the point where the oesophageal mucous membrane abruptly changes to the cardiac type of gastric mucous membrane.

The second case reported in this paper is reported to illustrate the fact, which has never been previously called to the writer's attention, that hemorrhage from a small ruptured vein in the oesophagus may be so slow as never to cause vomiting of blood until it has gone on so long as to produce a fatal anaemia. The underlying cause of this condition was a carcinoma of the pancreas, so small that it was noted by of the writers during a careful exploration made at the time of the removal of the gall-bladder, and was not noted at the autopsy until sections were made of the pancreas.

CASE 2. P. T., aged 53, a fireman, was admitted to the City Hospital on November 18, 1919. History unimportant until five months ago, when he began to have indefinite pains in the abdomen, chiefly the lower left quadrant and right hypochondrium. Suffered from constipation. The pain was not sufficient to keep him from work, but was not relieved by medicine.

Examination showed a man with well developed musculature and healthy appearance, showing slight tenderness in the epigastrium and right hypochondrium. Bismuth x-rays of the gastrointestinal tract were negative, but the x-rays showed the outline of an enlarged gall-bladder. Under the diagnosis of cholecystitis he was operated upon November 21. The gall-bladder was found to be much distended and tense. A careful palpation of all the intra-abdominal organs at that time showed no abnormalities. The pathological report was chronic cholecystitis. The patient had hiccough for a couple of days then did perfectly well until December 5, when he was allowed to sit up. On the 8th of December he was attacked with nausea, vertigo, rapid pulse, became quite anaemic and passed a tarry stool. On the 9th, his symptoms continuing, a transfusion was done. On the 11th, his pulse and temperature were normal. On the 13th, he expectorated amounts of dark brown fluid, and on December 14th and 15th these symptoms continued. On December 16, he vomited a small amount of bright red blood. He became very much weaker, the abdomen became much distended, and a transfusion was done. Feeling from the amount of blood he had passed in the stools and from vomiting a small amount of blood that there must be an ulcer of the stomach that had been overlooked at the previous operation, I opened the abdomen again and found many adhesions around the former position of the gall-bladder. The abdomen was filled with dark colored serum. There was a good deal of hemorrhage from the under surface of the liver in separating the adhesions of the duodenum. I could find no evidence of ulcer anywhere in the stomach. The patient continued to fail and died on December 17.

The autopsy showed a very unusual condition, an oesophageal varix which was undoubtedly due to a small cancer of the head of the pancreas. At autopsy almost all the viscera had been removed from the abdominal cavity before anything abnormal was seen, when a section of the pancreas showed slight enlargement of the head of the pancreas with increased consistency. In the tail of the pancreas was found a ring of normal pancreatic tissue, about which were several small areas of white, translucent tissue. Sections nearer the head showed invasion of the

pancreatic substance by this foreign tissue which in the tail of the pancreas surrounded the parenchyma. Section through the pancreas at a point midway between the head and the tail showed islands of normal pancreas infiltrated by smoother, paler tissue which on examination proved to be carcinoma. The splenic vein and the branches of the mesenteric vein at this point showed friable thromboses. The thrombosis of the splenic vein extended throughout the length of the pancreas and into the portal vein. Section through the head of the pancreas showed an increased amount of the tumor tissue, which had infiltrated the pancreas very extensively. The oseophageal veins were somewhat dilated. In the cardiac end of the stomach on the posterior surface about 3 cm. below the cardia, a pin-point area of hemorrhage in the wall was found. Injection of the veins near this area failed to show a communication with the blood vessels. Certain of the veins in this region were thrombosed. This illuminating autopsy showed thrombosis of the splenic veins and ulceration of the stomach close to the oesophagus due to thrombosis of the varicose oseophageal and gastric veins. It showed that the dilatation of the gall-bladder was due to a growth in the head of the pancreas which was infiltrating, but not large enough for me to feel at the operation. The special point for which it is quoted, however, is that a gradual hemorrhage from such a growth could go on for days or weeks or months without at any time being sufficient to cause vomiting of blood. As causes of profuse hematemesis from the stomach we have discussed in the foregoing paragraphs, oesophageal varices and oozing from superficial ulcerations.

The third important cause is erosion of a large blood vessel by deep chronic ulcers. This may be the proper place for a brief discussion of hemorrhage in chronic ulcers. Gross hemorrhage from the mouth is a comparatively rare symptom in chronic gastric and duodenal ulcer, about 20% (Eusterman). A steady, slow, slight (often very slight) escape of blood goes on constantly which may be noted by examination of the stools. The reason for this is that never being poured out in sufficient quantity to cause vomiting, it is passed on into the bowel and may go on sufficiently to produce marked anaemia (as in Case 2 of this paper).

In ulcer the reason that the bleeding is usually slow is that the ulcer after eroding the mucous membrane down to the muscular layer presents a firm anaemic base which does not bleed. After this condition is reached, the only bleeding is from the narrow edge of eroded mucous membrane, where the latter joins the base. This hemorrhage in the acute stage, when the erosion concerns only the vascular mucous membrane, and when no scar tissue was formed, is apt to be much more profuse. In deeper ulcers, reaching to the submucosa, the anaemic scar tissue of the base ordinarily does not bleed at all, and that from the edge is most of the time, slight. When increased hemorrhage does occur from such an ulcer, it is probably due to erosion of a blood vessel, large or small, in the spreading border of the ulcer. This intermittent hemorrhage is characteristic of ulcer as compared with cancer, in which as would be expected from the rapid growth and more rapid breaking down the hemorrhage is apt to be more constant and profuse. When a chronic ulcer perforates and becomes adherent, however, it may invade a very large vessel, e.g., in the pancreas, and a profuse and even fatal hemorrhage be the result.

In the earlier portion of the paper we have discussed the reasons for the comparatively excessive hemorrhage from acute ulcers of the stomach as compared with the chronic ulcers. It is my firm belief that these acute ulcers are the early stages of an ulceration which goes on and becomes chronic, though many writers do not believe that this is the case. The following discussion regarding treatment applies to the treatment of severe hemorrhage from all forms of stomach ulcer, but in particular to acute or small ulcers which cannot be seen or felt on examination of the outside of the stomach after the abdomen is opened.

Treatment. When confronted with a case of vomiting of blood sufficient to cause an acute anaemia the question of treatment comes up. Surgeons are generally and rightly agreed that operations on the stomach are best not done in the presence of shock from great loss of blood. In acute cases the ulcer may heal while the stomach is kept at rest in the treatment of the first hemorrhage, so that the bleeding is never repeated. In chronic ulcer there has been a generally accepted dictum that after a second hemorrhage one should operate. This may be a good working rule, but it is also a fact that the second hemorrhage may be fatal. I have myself seen several young women die of a second hemorrhage from an ulcer under the waiting treatment and under this plan we have no assurance that the patient is not being weakened by a constant steady oozing which is being passed out into the bowel, and is surely not improving the patient's ability to endure an operation should such be necessary.

The use of an actual cautery in operations for ulcer has greatly simplified the treatment of hemorrhage and made it much safer than before, while transfusion furnishes us with a ready means of changing a patient at once from a bad to a good operative risk. It seems to me safer to transfuse and operate at once and cauterize the ulcer, than to wait the doubtful result of a second profuse hemorrhage. But in order to cauterize the ulcer we must at first find it, and we well know that superficial ulcers can sometimes not be seen or felt through the stomach wall from the outside. They can be found by passing the wall of the stomach in review, so to speak, through an opening in the anterior surface, and Rovsing and Herrick have devised instruments resembling cystoscopes, for looking around the interior of the stomach through a small opening in the wall. The presence of the "sentinel gland" to which I had the pleasure of calling attention about twenty years ago has often aided me, as in the cases described below, to find an ulcer. It was found by my own observation and the much more extensive one of the Mayo Clinic that the presence of a single enlarged gland in the mesentery might be a guide to an ulcer situated opposite to it along the greater or lesser curvature. A positive x-ray, if we have one, may also aid us in the location of the ulcer.

I wish to report briefly two cases in which such ulcers were located by the sentinel gland, aided in one by the x-ray, transfusion done, and apparent cure effected by the use of the cautery through an incision in the anterior gastric wall.

CASE 3. A woman of 41 was admitted to the Boston City Hospital on December 1, 1919. Fifteen years ago she had vomited blood and was told that she had an ulcer. At this time she remembers distress after eating and other symptoms pointing to ulcer. Since then she has had attacks of epigastric distress off and on, usually following indiscretions of diet. Because of this distress after eating she came to the outpatient department and had a bismuth series. These were negative and she was sent home on a diet. Two days later she had a hemorrhage of about one pint of blood and came back to the hospital. Another bismuth series gave a report of gastric ulcer high up on the lesser curvature. She had another severe hemorrhage and was transferred to the Surgical Service. Examination showed a well developed, poorly nourished woman, pale and anaemic, with a pulse of 141. She presented a scaphoid abdomen with some resistance and tenderness on palpation over the epigastrium. In view of the fact that the patient had repeated gastric hemorrhages and severe anaemia, operation was advised. Before operation, however, a transfusion was done, using the left arm of the donor and the right arm of the patient. The Kimpton method was used. 650 c.c. of blood were transfused. She immediately improved and the pulse dropped from 140 to 100. Her color was good. At the operation an epigastric incision was made and the stomach raised into the wound and closely examined. No induration could be felt, but there was an enlarged gland in the gastrohepatic omentum close to the lesser curvature opposite the point at which the x-ray showed a constant deep incisura rather high up on the lesser curvature. The stomach was opened and this area examined from within. It showed a small bleeding ulcer not very deep, having a base of white scar tissue about half the size of a ten cent piece. The ulcer was burnt out with the cautery and the resulting perforation inverted and closed by a double row of chromic sutures. The patient made a first-rate recovery, recovered from her anaemia and quickly regained her weight and strength. An x-ray taken after the operation shows the constricting effect of the scar in the stomach, but the patient's condition and freedom from symptoms leave little doubt of a cure of the ulcer.

CASE 4. A young man of 18 was admitted to the Boston City Hospital on January 31, 1920. He stated that he had always been well except for indigestion and poor appetite, which he had had for as long as he could remember. The day before entering the hospital, while he was working, he suddenly became dizzy, nauseated and vomited up a large quantity of dark-colored blood, he thinks about half a bucket full. Immediately after vomiting he had rather severe pain in the epigastrium. The next day a physician gave him medicine and told him to remain in bed. In the afternoon, however, he got up and walked around the house. Suddenly he became nauseated again and vomited up more blood. The pain again became severe and he was sent to the hospital. Examination showed an anaemic, thin, poorly developed and nourished boy, evidently in severe pain and spitting up streaks of dark colored blood. There was extreme tenderness over the epigastrium, no spasm, abdomen not tympanitic, normal area of liver dulness. Pulse was extremely rapid. The diagnosis of bleeding gastric ulcer was made on the history of nausea and indigestion with recent vomiting of large quantities of blood, tarry stools, and anaemia with physical signs presented by the abdomen. The next day a transfusion was done by Drs. Gallupe and Sullivan with the patient's brother as donor. The Kimpton direct method was used. The veins in the elbow were exposed and the patient

given 500 c.c. of blood. He was very comfortable for a short time following the transfusion, with pain in the abdomen which was controlled by morphine. He had not vomited since entrance. Operation by Dr. Lund under ether. High mid-line incision. The stomach was brought into the field and carefully explored externally. There was a sentinel gland in the gastro-hepatic omentum about one-half inch from the lesser curvature just above its centre. The stomach was incised and a superficial ulcer, bleeding constantly, with no induration surrounding it, was found on the posterior surface opposite the gland. The bleeding area was cauterized carefully until bleeding ceased. The incision in the stomach wall was sutured with Young's intestinal catgut, the abdomen was closed in layers and the patient given saline solution per rectum while on the table. He made a good ether recovery. He was rather restless, complained of pain in the abdomen and vomited a very small amount of blood which had probably escaped into the stomach during the operation. His anaemia improved and there was rapid increase in weight and strength. He left the Hospital March 3, in fine condition.

The writers believe that immediate transfusion and cauterization of the ulcer are preferable in cases of this description to waiting, attended as it is by the constant danger of repeated hemorrhage followed by an exhaustion which may be fatal.

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LACERATED WOUND INTO KNEE-JOINT, TREATED BY COMPLETE CLOSURE AND IMMEDIATE ACTIVE MOBILIZATION.

By Lyman Allen, M.D., Burlington, Vt.

The report by Dr. Willems of Belgium on 100 consecutive cases of open injury to the knee-joint, with and without sepsis, and with and without foreign bodies in the joint or its neighborhood, with his remarkable results as regards mortality and mobility, is probably known to you all. Of these 100 consecutive cases, 18 were accompanied by a purulent synovitis of a virulent type, chiefly streptococcus. There were no deaths and no amputations; one resection and two stiff joints. His figures were doubted at first; they were too good to be true, but as other army surgeons copied his methods more or less accurately their results approximated his.

The principle which he employed in the treatment was new—active motion from the very first, repeated every two hours day and night, a radical departure from the former treatment of immobility in joint injuries. Surely most, if not all, of us have used immobility in our treatment of joint injuries of all kinds, and ankylosis, or limited motion, was frequent if not the rule. I can think of some classes of joint cases where I used active or passive motion to a very moderate degree, such as the strapping and immediate use of a moderately sprained ankle or knee. Also for many years our athletes have been treated by massage and immediate active and passive motion for joint injuries of all kinds, with the result that in most cases they have been able to resume their athletics long before they could have under the treatment by splints, and with usually good results. I have always felt that the trainers and the athletes themselves took a chance when they did this, preferring to run the risk of a poor result rather than face the certainty of a long convalescence, but apparently they were following the best line of treatment.

From our earliest college days the idea of *rest* for injured tissues has been drilled into us. We immobilized a fracture because we wished it to unite in a given position, but we immobilized an injured joint although we wished it to get well *without* union of the joint surfaces or formation of strong bands of surrounding connective tissue. Not very logical, was it? The idea behind it all was "rest." "If you want any tissue to get well quickly, give it rest." But in joint injuries we forgot that what we feared was not lack of healing but ultimate limitation of motion.

The presence of sepsis adds another factor—to combat which we need good drainage and hyperemia. Both of these are secured by motion, active better than passive. There is little hyperemia in a joint strictly confined by splints—and what can force pus out of a joint capsule so well as active motion with an adequate drainage opening? Undoubtedly our treatment of joint injuries has been much influenced by the type of joint disease most frequently seen in

civil practice, *i.e.*, tuberculosis. Here we have a chronic disease which *rest* tends to cure—one which may remain latent for years and break out again from the slight trauma of motion; and our aim is to secure ankylosis, for this reduces the likelihood of future trauma by preventing all motion. True we occasionally see the cure of a tuberculous joint *with* motion, but all such joints are constantly menaced by the possibility (yes, likelihood) of the re-awaking of the trouble by some slight joint strain, so that the tuberculous joint cured by ankylosis is a safer "joint" than one cured (probably temporarily) with some motion. We have let our experience with tuberculous joints which we hope to cure *with* ankylosis, direct our treatment of acute joint injuries, which we hope to cure *without* ankylosis.

The case I wish to report came to the Mary Fletcher Hospital January 5, 1920. I had had an unfortunate experience shortly before with a bullet wound in the knee-joint of a young man, which I treated in the old way, removing the bullet, débridement, drainage and splint, only to have the patient die with streptococcic infection. The reports of Dr. Willems' cases determined me to try his method at the first opportunity.

"S. Mc.," aged 5, fell and struck his right knee on a broken bottle frozen in the ice, making a jagged cut about three inches long to the outer side of the right patella, laying the joint open from the patellar tendon upward and outward. He was 40 miles away and his physician telephoned that he was bringing the child to the hospital and asked what should be done as first aid. I told him to paint the wound and neighborhood with tincture of iodine and put on a sterile dressing. About five hours after the accident, under ether, I enlarged the wound slightly upward and outward; picked out all clots, trimmed all the cut edges and washed out the joint with 2% boric acid solution, using several quarts, keeping my fingers out of the wound entirely. No broken glass could be found in the wound and I closed the synovial membrane with No. 00 interrupted catgut; sutured the capsule with interrupted No. 2 chromic catgut and medium Kangaroo tendon; closed the subcutaneous tissues and skin with No. 00 catgut and continuous silkworm gut and a few interrupted silkworm gut stitches; carried a small cigarette drain down to the capsule and painted with tincture of iodine. Light sterile dressings were put on with knee flexed and then extended so that motions could be kept up. The nurses were instructed to make the child flex and extend his knee to the full extent every two hours day and night, and to use passive motion if he refused to move it himself. Cigarette drain was removed on third day and silkworm gut sutures taken out on the ninth and tenth days. Healed by first intention. At first the child was much afraid to move his knee but soon he found that it was not painful and we made up a game which encouraged him to move it actively.

He was in bed eight days, never used a crutch or cane, went home on the twelfth day and has an absolutely normal joint.

Under date of September 30, 1920, his mother writes: "The condition of Stuart's knee is perfect so far as we know. He has never had any pain in it and uses it as well as the other. He hasn't limped any since March 1 and could run then as well as he can now. We are more than grateful to be able to make this sort of a report. Yours truly, Mrs. C. J. McC."

It seems to me that the principle of Dr. Willem's treatment of knee-joint injuries may well be carried over to the treatment of injuries of other joints.

When a fracture so complicates the joint injury that active mobilization cannot be carried out without the displacement of fragments, we must use a splint, but in sprains and dislocations without fracture, active motion seems to be indicated. Even a dislocated shoulder or hip will not easily recur after reduction unless the particular motion which caused the original dislocation is repeated and carried to an extreme, and with a sprain there is no such danger. It is a common saying that a bad sprain takes longer to heal than a fracture. May that not well be due to the formation of fibrous adhesions which limit the motion of the joint and which have to be stretched out later in convalescence. They could not have formed at all if full active motion had been carried out from the first. Where motion is limited by effusion into the joint, Dr. Willems aspirated (perhaps repeatedly) and found each time that motion was at once restored. This certainly could be done in other joints than the knee.

Perhaps it may be said that our results in sprains and dislocations are good enough under our old methods—but are they really? I know several old sprains and dislocations where the motion of the joint is far from normal. The results are not so bad as the average in knee-joint injuries treated by immobilization, but they might be better.

Who shall say that if the knee-joint when injured by penetration, injury to capsule, cartilage and bone, and perhaps complicated by sepsis, can be made to give 97% of movable joints and no deaths under active mobilization —as was done by Willems—that we should not

dare to treat the ordinary closed sprain or dislocation by similar methods?

In conclusion, let me say that I realize that one case proves nothing at all, but when a radical departure is made from the ordinary methods of treatment it should prove helpful if each of us should report every case, whether success or failure. To me it seems certain that Dr. Willems has made a tremendous contribution to surgery.

DISCUSSION OF DR. LUND'S PAPER.

Dr. Daniel F. Jones, Boston: The question of how to treat bleeding from a gastric ulcer has always been an interesting one. We were first urged to operate at once upon all bleeding ulcers, then we were urged to wait until the patient had recovered from the single severe hemorrhages. Joslin and Greenough showed that in a large series of cases treated medically, the mortality from severe single hemorrhages was almost nothing. Repeated small hemorrhages require operation before the patient's condition becomes too bad to permit operation. Now Dr. Lund urges us to transfuse and operate at once.

To know just what to do in these cases of hemorrhage, always seems very difficult to me, as it is hard to wait when a patient is bleeding. It would take very little persuasion for me to follow Dr. Lund's advice. I am sure, however, if we got to operating generally for hemorrhage from the stomach, we should be losing many patients. It is the small, deep ulcer which most often bleeds and I know from experience that these ulcers are hard to find even when we use the "sentinel" gland as a guide. I have recently operated upon two of these small ulcers which had bled and found them with the greatest difficulty, even with the aid of the x-ray. They were very small and deep, situated just on the duodenal side of the pyloric ring, on the posterior wall. If these patients had been in poor condition I believe that I should have overlooked them in my haste to finish. In the large chronic ulcer, it is much better to operate when the patient is in good condition for the proper treatment of these cases is usually very difficult.

Rupture of varicose veins or ulcerations near the cardia, mentioned by Dr. Lund, cannot be found by operation and therefore operation should be avoided in such cases.

I have, perhaps, been fortunate in not losing any patient that I have had to watch because of hemorrhage, and probably my turn to lose some is coming. I feel certain that I should have operated unnecessarily and should have lost some of these patients if I had operated at once.

Dr. F. B. Lund, Boston: I would like to say one word in regard to what Dr. Jones said. I don't believe in operating on a patient in shock from gastric hemorrhage. The only point is that if you transfuse them you may transform them into a good operative risk, and then if you cauterize the ulcer you are able to get better results than if you leave them to medical care. I can't give figures, but I have seen a number of young women die from a secondary hemorrhage when they were trying to get over a primary one. Transfusion makes the patient into a good risk, and the use of the cautery makes a simple operation, and if we can avail ourselves of these in any given case, we are possibly giving our patient a little better chance than if we trust to luck. Of course, Dr. Jones said he has never seen a case die of hemorrhage. I have, as stated above, seen patients die of a secondary hemorrhage while waiting to get into condition from the first one. Now that is the kind of thing we want to avoid.

Dr. D. F. Jones: I would like to ask if these cases of hemorrhages are from very small ulcers, and if he does not feel that if they are put on a very strict diet in those very small ulcers there is not a good chance.

Dr. F. B. Lund: I think there is, but the healing of ulcers by diet is a very slow process, and there will be periods when they will start up again. Now if you cauterize them first and turn them in and then put them on the diet you are safer.

Dr. R. B. Greenough, Boston: In 1899 Dr. Joslin and I studied one hundred and eighty-seven cases of gastric ulcer at the Massachusetts General Hospital. There were seven cases of fatal hemorrhage in this number—five males and two females. In no case did a young woman die of acute hemorrhage, and in practically all of the cases it was the repeated hemorrhage from the chronic ulcer in older persons which proved fatal.

Dr. J. S. Stone, of Boston, read a paper on "The Treatment of Epiphyseal Separations."

DISCUSSION OF DR. STONE'S PAPER.

Dr. Seldom B. Overlock, Pomfret, Conn.: To a man who has about one hundred and fifty boys from eleven to eighteen years of age under his care for nine months of each year, who are constantly receiving injuries in their various sports, this paper appeals strongly. Several points occur to me suggested by Dr. Stone's paper. One of these is this: there seems to be an impression that epiphyseal separation rarely occurs after fourteen or fifteen years of age. In fact, it occurs quite frequently up to eighteen or nineteen years. If I am wrong in this, Dr. Stone will correct me.

Another thing is in regard to rotation. The cases in which this is not recognized and corrected are those in which function is not fully restored later. It is always well to have an

x-ray picture of the opposite side as well as of the one injured. By comparing the two pictures an injury can often be discovered that might have been overlooked otherwise.

DISCUSSION OF DR. ALLEN'S PAPER.

DR. F. B. LUND, Boston: I have been very much interested in the report of that case. I have seen so many bad knee results from immobilization and in compound fractures and also in septic infection that I agree with Dr. Allen that this method is a great addition. I reported a case of gunshot fracture where the joint was opened and motion from the first instituted and the man got a good result. Since then I have had a patient with a wooden leg and septic infection of his only good knee. When I saw him his temperature was 104° F., and pus in the joint and I immediately opened it and began immediate motion after washing out the joint with salt solution. He was a very hard patient to get to move his knee, but he kept on moving it more and more and drained pus for six days, and after that a little serum. It soon healed up and the man has a perfect knee, which is a surprising thing in the light of my former experience. I agree that we ought to try this and report results.

DR. DAVID CHEEVER, Boston: In view of what Dr. Allen suggests, I might mention a case that was under my observation last spring. The patient was a boy, eight years old, who fell under a truck and received an extensive lacerated injury of the lower legs, a great deal of the skin and soft tissues were stripped from the bones without a fracture. The whole field became septic, and he had a streptococcus septicemia and incidentally he had a purulent effusion of the knee-joints so that both joints had to be opened and drained, and a positive culture of the streptococcus was obtained from each, and that boy made a practically complete recovery under the treatment which Dr. Allen has advised. It took months of constant, frequent, active and passive mobilization after drainage so that the case is different from Dr. Allen's in that both joints were involved and a culture of streptococcus was obtained. Whether there was a bacteriemia I am not certain, but I think there was.

DR. ALFRED M. ROWLEY, Hartford: I presume the secretary put me down for a discussion of Dr. Allen's paper, knowing that I had had some experience in joint surgery during the war. We all know with what pessimism many surgeons looked upon penetrating wounds of the knee, and we know that surgery made two great advances during the war; first, in surgery of the chest, and second, in surgery of the joints. It is difficult to drain the knee or even to flush it. Some attempted this by cutting and suspending the patella tendon and then irrigated with Dakin's solution. It was not until late in 1917 that we started to treat knees by motion. The operative procedure was a debridement using lateral incisions, then flushing the cavity and closing the capsule, leaving the skin open. If there was no infection of the skin as shown by culture, it was closed, and the knee was put in motion. Flexion of the knee-joint was a great aid in making a diagnosis of an intracapsular wound, as it would pump the blood out at the point of penetration. With lateral incisions and motion the joint is kept freer from pus than in any other method of drainage.

I will cite only two cases—one a penetration wound with articular damage. This man had no infection. Was walking and discharged from the hospital in ten days. The other had a comminuted crushed fracture of the patella. He developed a mild infection of the joint. After two weeks I went in and broke up all the adhesions and closed over the skin and put him into motion. I have had a letter from him since, stating that his joint was as good as a hinge. In infections, motion oftentimes is very painful and it is sometimes very difficult to get these patients voluntarily to manipulate the joint. I think this treatment has made a wonderful advance in joint surgery and particularly so in those cases that keep sterile.

DR. LYMAN ALLEN, Burlington, Vt. (closing): It seems to me that Dr. Willems proved his treatment in injuries of the knee-joint; and reports of other men, some of them using modifications of it, do not reach his results. His results are better than those of any modification.

As regards motion: As soon as motion is established it diminishes pain. The patients who have kept their joints moving have less pain. Active motion is better than passive; passive is better than nothing.

About closure of the joint: Close the joint, and if you have to take out a suture later for drainage, do it; but never put a drain into the joint. Drain down to the capsule in suspicious cases. In a septic joint you get hyperemia and drainage from motion; rest will not give you hyperemia and will not *drain it*.

What I want to bring out is this: Why not treat other joints in a similar way? Why not take a dislocated humerus and reduce it and give it some active motion, but not the motion that threw it out? Why not do it? Let us carry that principle over. I say, if the knee-joint having been penetrated, will stand active motion and give us 97 per cent. of movable joints, why can't we take a simple dislocation and with active motion get better results than we have in the past?

Dr. A. M. Rowley, Hartford, read a paper on "Goitre; Features in Operative Technic and Results" (from Ms.).

Dr. David Cheever, Boston, read a paper on "Are There Reliable Criteria of Operability in Exophthalmic Goitre?"*

DISCUSSION OF DR. ROWLEY'S AND DR. CHEEVER'S PAPERS.

Dr. Frank H. Lahey, Boston: I am very sorry not to have been here to listen to Dr. Rowley's paper, but I have been very much interested in Dr. Cheever's, and with a few exceptions I agree with everything that Dr. Cheever has said. I presume that Dr. Rowley took up the subject of anesthesia, which I believe is an extremely important one in connection with operations in hyperthyroidism. Anesthesia, I believe, in my own experience, has played an important part in lowering mortality. I believe the ideal anesthesia in the surgical treatment of hyperthyroidism is one which gets the patient to the operation with the least degree of stimulation and the one which gets the patient back to bed with a narcosis which persists as long as possible.

I originally began thyroid surgery with ether and then changed to local anesthesia, but local anesthesia is entirely wrong, if there is anything wrong in excitation of these patients. I, therefore, added to it scopolamine and morphine. I thought it would be an ideal anesthesia combined with local anesthesia. Unfortunately it is not constant in its effects. One patient comes to the operating room awake and another sleeping, and the one that is awake is aroused and excited on the slightest stimulation. Therefore, I added gas-oxygen, and now my method consists of novocaine, scopolamine and morphine in doses of 1/200 grain and 1/4 grain two hours before the operation, and the same dose repeated one hour before the operation. The patient is then brought to the operating room and placed on the table as quietly as possible, and anesthesia with gas-oxygen is started. Gas-oxygen is, I believe, an ideal anesthetic when administered by an expert, but a very dangerous one in the hands of amateurs.

From the clinical point of view the condition of vagotony and sympathicotony is so intangible that I see no value in it. I do not mean to discourage an attempt to group cases, but as yet I have been unable to do so to any satisfaction. I talked with Dr. Means some months ago concerning the vagotonic cases, and have considered it in my own group of cases, but cannot see that they are more serious than the ones grouped in the sympathicotonic group.

We have found an operating room chart an extremely valuable means of predicting the patient's outcome. We take patients who are very seriously ill to the operating room, where Dr. Sise makes an operating chart; their pulse, respiration and blood pressure are taken every five minutes and recorded on the chart. If they are extremely toxic and we fear a fatal outcome, they receive gas-oxygen anesthesia for perhaps fifteen minutes to raise their pulse and blood pressure to the maximum, and we do not operate on them but put them back to bed and observe the effect on them of this anesthesia, and following that, if the condition is favorable, they return to the operating room in a few days. We feel that we can do a single pole ligation with very little more added load. Single pole ligation has an exceedingly valuable effect, provided you have tied the whole pole. Many ligations consist of ligations of the anterior division of the artery and vein only. If they stand the ligation of one pole, you can wait and see how they react to that, and then proceed with other ligations. So that in extreme cases one eventually has the chart of their visit to the operating room for first pole ligation, second pole ligation, and then for the ligation of the right inferior thyroid artery and then the left, and finally you have five operating room charts indicating the patient's ability to stand the various surgical procedures. Given the metabolism rate and change in weight after ligation, the operating room chart and the clinical course following ligation, we feel quite certain that we can predict the outcome in these cases.

I have now personally operated on over five hundred thyroids, and I believe that with each additional group I have gained something in the way of experience. It is an intangible thing to speak of—experience—and I do not know of any other way we can describe it except as judgment, but one does get definite impressions by observing patients with hyperthyroidism and by watching the way they react, and I believe it is of inestimable value in predicting outcomes in these cases.

Dr. David Cheever, (closing): I am very much pleased to find that Dr. Lahey's views coincide with mine. The pre-operative ordeal is what I meant when I spoke of the morale of the patient. Any of the injections, by quinine and urea or by iodine and glycerine or boiling water, or multiple cauterizaton, constitute the same sort of thing.

I am interested in the question of associated visceral disease, in which I do not wholly agree with Dr. Lahey. It has not been my experience that associated disease, except myocarditis, is an important factor. Not one of these cases which I quoted showed any disturbance of renal function or of hepatic function: but I am not referring to the effect on the heart.

Just another thing I want to suggest as to the use of the word "toxemia," which was brought out in a talk with Dr. Cannon. "Toxemia" means a toxin circulating in the blood. Is thyrotoxicosis a real toxemia? That is, does the thyroid elaborate toxins? The thyroid presides over the cell metabolism, but is there any evidence that the thyroid elaborates toxins?

* Published in Archives of Surgery, January, 1921.

If there is poisoning, those poisons are presumably elaborated in the course of the normal chemical processes in the cells, and as far as I know, there is no evidence to show that there is a defective elimination of the normal toxic products of cellular metabolism, so that the question is to be considered whether what we call toxemia is not the vastly increased physiological action of the thyroid gland and not a true toxemia.

Original Articles.

PROSTATIC TROUBLES FROM THE PRACTITIONER'S VIEWPOINT.*

BY RICHARD E. DICKSON, M.D., HOLYOKE, MASS.

IN preparing this paper I have hunted through my records for cases which will illustrate the common history of the usual prostatic disturbances we are called on to consider, and will detail them briefly, instead of going over the usual textbook descriptions to which we all have access.

A few years ago, J. L., 20, came to the office with complaint of full, burning feeling in the perineum, marked tenderness at defecation, frequent, very urgent desire to void, prostatorrhea noticed when he strained at stool, and he thought he detected considerable in his urine on standing. He denied gonorrhea, admitted marked masturbation, was one of those fellows who seem to get lots of enjoyment mooning over erotic fancies, and also was doing more or less protracted courting of a moral maiden, at which times he got more than usually passionate, without relief. Between times he was decidedly melancholic and depressed, and this had been helped along very nicely by the attentions of one of the "lost manhood" quacks of a neighboring city, who had started to "cure" him, at so much a course of treatment; the course stopping for a repetition of the fee often enough so that he was somewhat discouraged, and quite sure he was well along towards perdition. Examination showed some prostatic tenderness and fulness, no spermatazoids in his prostatorrhoea, so that he was told that he had a simple hyperemia, urged to omit his self-abuse, his courtship, and to occupy himself with something real in life, and was given a mixture of bromides and saw palmetto. He got along nicely for a while, then his mental depression got the better of him, he floated back to his "lost manhood" adviser, and shortly after hunted up a good deep hole in a country brook and drowned himself.

Not long since I was called to the home of N. C., 28, single, an ardent admirer of free and easy women, and whiskey with a kick, who was complaining bitterly of a severe pain of sudden onset in perineum and rectum, aggravated by fruitless attempts to void; temperature 101, pulse 112, generally used up, but in all having only one urgent demand, to get rid of that water, and so his pain. A hurried palpation of his prostate showed it decidedly enlarged and very hot and tender. Later inquiry developed the fact that he had recently had a gonorrhea and had been consuming considerably more whiskey than he needed. All attempts to catheterize were negative, both without and then with an anesthesia, so I aspirated, getting out a good lot of urine, and then put him to sleep with a hypo of morphine and hyoscine, with hot packs on bladder and perineum. Some hours later, under general anesthesia, a friend and I succeeded in getting a catheter down through the urethra, which was anchored there for a while. With the pushing of diuretics and sedatives, and plenty of heat locally applied, in a few days he was able to take care of himself, first with a great deal of dysuria, then difficulty in retaining his urine before he recovered. In this acute prostatitis I considered that we were extremely fortunate not to get any abscesses forming in the tissues, a fairly common sequel and calling for evacuation through the perineum unless there be spontaneous evacuation through the urethra. Also we were equally fortunate in not poking any false passages along the line of the swollen, tender tissues.

J. M., 47, married, no gonorrheal history, another alcoholic, had a retention with much the same history of rectal and perineal pain as above, and called another physician, who got into the bladder with a catheter, bringing out considerable urine, followed by marked bleeding and a good deal of suffering. As soon as the other medic had left the house, the patient decided with considerable vigorous blasphemy to change doctors, and I was the unlucky victim called right away. I found him in a great deal of pain, and some "fussed up," so he got enough morphine and hyoscine to give him several hours of rest, and as there was still some bleeding when I got there, ice bags to perineum

* Read before the Eastern Hampden Medical Association, at Springfield, Mass., June 10, 1920.

and over bladder. Some hours later, after cleaning him up, I got a mild solution of cocaine and adrenalin deep into the urethra with an urethral syringe, and after a little coaxed a catheter down into the bladder without any repetition of the bleeding. Rest in bed, alternating heat and cold, saw palmetto and santal with lots of liquids, fixed him up after a time. He has twice since returned for treatment, as soon as he discovered he was getting the least bit of prostatic tenderness, and each time putting him to bed, giving him the mixture I used at first with plenty of heat to the perineum, has staved off any catheterization. I am in hopes that a fairly strict enforcement of the Volstead Act will prevent his getting what seems to be an exciting cause of his trouble.

Turning now to chronic prostatitis, I am convinced that we find this much more frequently than any other prostatic condition, and that many of the prostatic troubles late in life are acute exacerbations of a chronic prostatitis rather than an hypertrophy, in the sense we usually employ the term. While, like the acute, it is more or less a sequel of gonorrhea, it has a variety of other causes.

B. E., 65, married, no history of gonorrhea or alcohol, at present under observation, for some time back complained of frequent desire to void, worse on lying down, with marked difficulty in retaining his urine if he got into a place where he felt he could not void, as his automobile with a company of ladies or elsewhere under observation. He has more than once said "Damn" during the fall, on finding his front door latched when he got to it, and being unable to get the door open and reach the toilet before he wet his trousers. Early in the winter, due to the exigencies of a large business, he found himself getting overtired and noted that he voided more at night and had more trouble in retaining than usual, that he was getting considerable dull perineal pain, and also pain referred to lumbar region and to rectum, scrotum and urethra, at times so serious as to inhibit sleep, while I was about to have him x-rayed for renal or ureteral calculus. Shortly complete retention supervened. I catheterized him three times in thirty hours without difficulty, then he resumed normal voiding, gradually lost all his pain and discomfort by substantially following the treatment I spoke of in acute prostatitis, *i.e.*, rest, diuretics, sedatives, external heat, etc., and since his recovery two and a half months ago, has rejoiced in his improvement, now being able to retain or void as he wishes much more than for some time, is also possessed of sexual vigor which had been in abeyance previously, which he is advised to forget. In commenting on this phase of referred pain, Young speaks of several cases he attempted to operate in pre-x-ray days, when he was sure he would find stone in kidney or ureter, but which turned out apparently to be only a reflex from prostatic irritation.

S. W., 22, single, dissolute son of wealthy old people, came to me some time since with the calm assurance that he had had several "doses," all of which had been cured, but that he found himself troubled with seminal losses at stool, and, after he was at all sexually excited he had hard work holding his water till he could get to a toilet, otherwise he was comfortable. He occasionally had a protracted session with an accommodating female, which was followed in a few hours by complete retention, with a great deal of perineal and urethral pain and tenderness, he would be obliged to be catheterized for several times, then would subside, and be normal till he had another experience, when he repeated his retention, etc. He was advised to change his manner of life and devote himself to something besides gratification, which he agreed to do and then forgot. After several repetitions of the above, he moved to another part of the country, and so passed from observation.

Chronic prostatitis either follows an acute attack, or is secondary to a posterior urethritis or a cystitis. The predisposing causes are ungratified excitement, excessive coitus, masturbation, hemorrhoids, habitual constipation, or various irritating conditions of the urine, the exciting cause an infection. Young advises systemic prostatic massage, either manual or by mechanical vibrator, at intervals of from three to ten days, followed by urethral and bladder irrigation with some soothing solution, as a mild boroglyceride, assuring the man of the need for patience, and keeping at it until the congestion has subsided. Of course there is a group of chronic prostatics with chronic abscesses, etc., requiring surgical care, but these are not in the limits of this paper.

In symptomatology, tuberculosis of the prostate strongly resembles chronic prostatitis, except that a careful palpation shows a more nodular condition, often more tender than prosta-

titis, and the diagnosis hinges on finding T.B. in the secretions expressed from the prostate. If ulceration occur, hematuria and eventually a serious condition of the parts follow, with grave prognosis. Persistent hygienic treatment, with carefully regulated doses of tuberculin seem to offer the best results. Later, if no good comes from these, drainage has helped.

Abnormalities and cysts of the prostate are to be considered when unusual structures are found, but are of sufficient rarity to warrant omission in a paper of this type, as is also true of sarcoma.

T. B., 65, married, a New York dentist, who often visited his people in Holyoke, with a history of various genito-urinary troubles at intervals for some years, so that he was more or less under observation of one of the New York urologists, came to me about two years ago with a history of just having had a pretty bad time in a New York hospital where he had gone for a cystoscopic examination, which he thought had mutilated him, this having been done during the absence of his own physician. He had then a great deal of haematuria, with pain in penis, scrotum, perineum and lumbar region, which he said had grown progressively worse during several months. He was then voiding without help, but had had various periods of retention. Palpation showed the prostate to have a feeling of marked hardness, and it was quite nodular. Always frail, his increasing infirmity soon caused his return home, where his urologist refused operation, simply trying to let him down easily, and in a few months he was dead from carcinoma of the prostate. About six months before this, his sister, older than he, had died of cancer of the breast, and a year later a brother, ten years older, also died of cancer of the prostate, up on a Vermont farm.

Merritt, of Atlanta, reported two cases of prostatic calculi in the *Journal of the American Medical Association* for December 20, 1919, which sum up the textbook descriptions so well that I have inserted them here:

A, 25, white, unmarried, without venereal history, noticed four months before consultation burning sensations while voiding, worse at termination, occasional haematuria. Strenuous exercise gave marked pain in perineal and pelvic region. Nocturnal emissions were frequent, always followed by severe pain and increased voiding. He feared intercourse because of pain afterwards. Examination showed prostate slightly enlarged and so very tender that it was impossible to express any prostatic fluid. Cystoscopic examination showed a normal anterior urethra, a contracted, tender posterior urethra, an enlarged, inflamed veru montanum. X-ray examination showed a small shadow in the median line of the prostate. Operation removed a small stone, after which patient was free from any symptoms.

B, 44, white, married, with gonorrheal history twenty years before. Ten years before began to have occasional dysuria, with frequent perineal and pelvic pains, gradually increasing in intensity, greatly aggravated by constipation and straining at stool. No hematuria. Intercourse impossible because of pain following. Physical examination showed a similar prostate, and the cystoscope a similar condition of urethra and veru montanum. X-ray showed a small shadow in median prostate line. Operation removed eighteen small calculi, since when patient has been normal. Injuries of the prostate divide themselves naturally into two classes, contusions and wounds. The first arising from kicks or blows upon the perineal region, or in a similar way from horseback or bicycle riding, inducing an acute prostatitis, with the treatment already outlined. Wounds may be the result of war, as from bullets, spear or sword or dagger; from falling astride sharp projecting objects, from false passages made with sharp metal catheter; and surgical wounds. The blood supply to the prostate is sufficiently rich so that there may be a most troublesome hemorrhage resulting, with its consequent worries. Clean wounds usually heal promptly, hence, to insure as much cleanliness as possible, and to control bleeding by packing, should be the plan. Infected wounds, unless freely drained, are apt to give a cellulitis, and may give a peritonitis, hence free drainage is in order. Fortunately the gland seems to be more tolerant than some parts of the body, and often the wounds of false passages heal spontaneously. If not, and abscesses result, they get the same treatment as elsewhere, evacuation and drainage.

Any reference to prostatic troubles naturally turns our thought to hypertrophy of the prostate, the condition most commonly seen by us, which I have brought in here, rather than right after chronic prostatitis, to which it bears many elements of similarity, but which no less an authority than Young advises does not follow

chronic prostatitis as an immediate sequel. The most common lesion is an increase of both lateral lobes, and also of the median lobe or bar, by a thickening of the covering capsule and an increased growth of the glandular substances composing the lobes, thus distorting the urethra. The median lobe has been found as large as an orange, sometimes pedunculated, making a regular ball valve to the urethra; or sessile, making a decided kink in the urethra. More rarely the middle lobe alone, or one or both of the lateral lobes alone enlarge, in either instance disturbing normal voiding by the compression or twisting of the prostatic urethra.

J. D., 58, married, without venereal history, noticed that he was voiding at night with some frequency, a new experience, as he had never had any urinary trouble, but that in the daytime he was normal as always. In due time he found that he was unable to void on arising, but that he must stir about, and that the stream was gradually becoming smaller, and also that he saw that he was obliged to strain considerably, with very little result, though after a time he thought he was emptying the bladder with less than normal control, as incontinence developed. Hot sitz baths helped for a little, but ere long the catheter was employed, and he was soon convinced that the incontinence was only a result of overfilling, and that he always had residual urine except when withdrawn by catheter. Notwithstanding attention to asepsis, the patient doing his own catheterization, a cystitis developed, considerable pus and blood showed in the urine, digestive disturbances made their appearance, vesical calculi were formed and conditions went on from bad to worse. Operation was advised but declined. At length consent was gained, a Bottini was done by a New York man, who also put in a perineal drain, in all his manipulations failing to discover any calculi and positively declaring none present. The patient got no relief in any curative sense, the bladder drain of course keeping down any bladder distention, uremia soon developed, and death ensued. Autopsy showed a rather small prostate, with sufficient middle lobe fulness to inhibit voiding, a handful of vesical calculi, the bladder and left ureter much distended and filled with pus. The history extended over three years.

W. B., 77, previous history negative, was confined to his home one January, some years since, with a severe bronchitis. One of his neighbors, of convivial habits, having visited a source of supply and gotten properly loaded, drove into B's yard on his way home, pitched out of his sleigh and forward, so that the horse on stepping around, which he didn't do, would have stepped on the driver's head. B. saw all this, and was so excited by his neighbor's peril that he rushed out to where he had fallen, not stopping to remember that he was partially dressed and had been confined to the house for some time, and with great effort, for the booze fighter was a heavy man, pulled him out of danger, roused him sufficiently to get him into the house, and together they got back in. That night B. could not void, try as he would, so I was called and to my surprise no catheter that I had or could get, would go in. The prostate did not feel unusually large, (but of course rectal palpation is useless in determining the size of the middle lobe); it was not specially tender, but it was certainly blocked all right. I aspirated suprapubically, getting 18 ounces. During the next ten days, through which time he was kept in bed as his general condition was made worse by the exposure, external heat applied, sedatives given, and catheterization attempted, his only relief was a daily aspiration. At the end of that time the urethra being sufficiently open to get in a catheter, for a few days the bladder was emptied every eight hours. He then resumed normal voiding, and had no further prostatic trouble.

J. P., 79, single, had the usual history of nocturia, then slowness in starting his urine, with diminished force, then retention and catheter life for ten days or so, recurring about every six months, usually spring and fall, for the last six years of his life, each time suffering greatly from excessive vesical tenesmus, and also marked pains in back, thighs, hips and rectum, with disordered digestion, constipation and marked hemorrhoids. He was financially very well off, but hated to spend a cent, and so because of the extra expense he refused to be catheterized oftener than night and morning, suffering torments several hours each day, which might have been avoided by a six-hour interval. His bladder usually contained about 750 c.c., or a pint and a half, as much as I've ever happened to find in any of my cases, though Young reports a case where he got about 4500 c.c., or about nine pints. Each time, after the ten days interval of suffering, his gland subsided sufficiently for normal void-

ing, and he would become as comfortable as anyone. He had an apoplexy one night about four months after his last prostatic attack, due to an effort to save himself from falling when he tripped, and was dead the following morning.

S. W., 83, married, gave a history of some years of catheter life at intervals, with very little attempt at even ordinary cleanliness, washing his soft rubber catheter as convenient, and carrying it, with a jar of vaseline, in a cloth in his pocket, to have it handy as needed. While he had some cystitis, considering his lack of asepsis, he was very much more comfortable than many for whom all precautions were taken. He finally got to worrying about his condition; fearing lest his passage should close so that he couldn't get the water out, he requested operation and the gland was removed by the suprapubic route. For days it looked as if he might die at almost any moment, but he recovered and lived for five years or so, dying of a broncho-pneumonia.

I might go on with case histories, but what has been given illustrate the essentials of the conditions.

With this gland as with other organs of the body, the best prophylaxis seems to lie in seeking as normal a life as possible. The seduction of the "skirt" seems to promise great things to the young man in his vigor, but in proportion as he yields, good old Dame Nature seems to charge it up, and later in life may give him some pretty serious occasion for thought as, in one way or another, she puts a kink in this unimportant little gland which causes the gentleman afflicted to lose all interest in the rest of his anatomy, until the trouble is allayed. While I have been very much interested in the operative methods and results recorded, they are not a part of this paper, and so will not be detailed.

THE DIAGNOSIS OF SOME CHRONIC SHOULDER INJURIES.

BY WILLIAM PEARCE COUES, M.D., BOSTON.

It certainly would be denied by few who have an adequate knowledge of the subject that chronic shoulder injuries and their proper interpretation form one of the subjects where perplexities concerning diagnosis and treatment are numerous and at times baffling.

The last usually severe winter, 1919-20, has been responsible for a considerable increase in this class of cases.

Those cases without obviously clearly defined fracture of bone form the very large group which I refer to in this connection.

To make an accurate diagnosis in these cases and to think of what is the best thing to do for them, is a problem with each case. Cases where a sub-deltoid bursitis is diagnosed often are much longer in getting well than a case of frank and definite bone injury about the shoulder, that is, presupposing treatment with a minimum amount of fixation, and early massage and passive motion. Less obvious solutions in the continuity of bone about the shoulder joint are often missed, particularly if no radiographs are taken. Such cases fall into the group of the so-called sprain, or insertion fractures, described by Callender and Stuart. Some slight bony injury is present in many cases of so-called traumatic shoulder bursitis. Of the injuries about the shoulder without gross bony injury, subdeltoid bursitis is one that is surely accountable for more disability, loss of time, and general discomfort, than any other lesion.

I believe, in these cases coming on after trauma that there is always a definite damage near the bursa, tearing of the bipenniform deltoid fibres, and that the bursa is a secondary manifestation. Strains of the supra-spinatus tendon as well as tearing, frequently accompany this lesion. Tears of the tendons of the latissimus dorsi and teres major tendons also occur not uncommonly. Usually in these cases we have a history of the arm being suddenly fixed in forced abduction with some circumduction; it is then that tendons give, and at times muscle bundles also. The after history of these cases reminds one strongly of that of epicondylitis, or tennis elbow. In each case there is usually stripping and tearing of periosteum, from excessive tendon pull. We see the cases usually some weeks or months after the original injury. Though some men have said that treatment at this time, other than operative (in necessary cases), does little, if any good, I am positive that systematic baking, massage, and exercise does do great good in some cases. The question of hysteria after shoulder injury is a very important one, to which comparative little attention has been paid. It is hard for the ex-

aminer to believe and always have in mind the fact that a robust and muscular workman not infrequently suffers from a purely hysterical shoulder, long after the physical effects of his injury have passed away. In examining these different types of shoulder cases, those without any obvious and striking features regarding deformity and in some with apparently little loss of function, there are certain points which, if followed carefully in routine, will enable us to arrive at a correct diagnosis in most cases. In obtaining a history, it is important to ascertain as accurately as possible the story of the accident. We must ascertain if there was a fall, a blow, or whether injury followed muscular violence alone. From these points we may often in our own minds hazard a thought as to the probable diagnosis. Always inquire if there has at any time been any previous injury to the shoulder. It is wise always to inquire as to the patient's history with reference to previous Neisser or spirochaetal infection. This should never be neglected, particularly in the sub-acute and chronic cases, as it may have a very important bearing on the outcome. In the examination, it is important to have all clothing removed to the waist, so that an unrestricted view of both shoulders is obtained. In many cases, care has to be used in doing this, for the comfort of the patient.

In the acute cases seen some hours or days after the trauma we naturally proceed somewhat differently than in the older cases. Begin by inspection. Much may be learned before the shoulder is touched. Note the amount of swelling, if present, the situation of any ecchymosis, and the manner of support of the injured part. Make the patient go through shoulder and arm motions with the uninjured arm. This gives us a good idea of the arcs of full motion. Find out just what the patient can do with the injured side. Next proceed to careful palpation. Rotate the humerus gently and note the result. Palpate the acromion and coracoid regions, ascertain if the line of the humerus seems straight. If a patient after an injury to the shoulder can perform all shoulder movements well, even though there is some localized pain, the chances of a fracture of bone, a bursitis, or serious shoulder tendon injury is very remote. In subacute and chronic cases, it is important on inspection to note any visible atrophy. Inspect the shoulder region from the back as well as the front. Note the hand grip, and condition of the hand and fingers. The cases in this class are almost always either subdeltoid bursitis, with or without shoulder tendon injury, fracture of the great tuberosity of the humerus, or hysterical shoulders. Cases of true arthritis of the shoulder following injury are certainly, in my experience, rare.

It is at times impossible to be sure, without the aid of radiographs, whether we are dealing with an old fracture of the greater tuberosity without displacement, or a subdeltoid bursitis, or both. In late cases, bony thickening about the tuberosity may clear up the diagnosis. With negative x-rays as regards fracture, we can make a diagnosis of a bursitis from the typical clinical picture of painful restricted abduction, tenderness over the upper deltoid, and free motion on swinging the arms forward, which Codman has so graphically described.

Hysteric shoulders occur quite commonly after injury, men being affected as well as women. Sometimes they occur after trauma which was definitely too trivial to cause such symptoms as are afterwards complained of, and sometimes they follow a definite injury, as a bursitis. The recognition of the hysteric element is important. After seeing and recognizing a few of these cases, one can suspect the probable nature of the trouble when the patient first steps into the office or clinic. Many times we find the arm and shoulder swathed in flannel and bandages, and the greatest care is taken in removing them. The mental attitude of the patient often gives us a clue. They complain bitterly of pain before the shoulder is touched, and have suffered many things from many doctors. On examination they often resent the lightest touch, though it would be impossible for it to cause pain. The shoulder is usually held immovable, the hand hanging at the side. Any movement of the elbow, humerus, or shoulder as a whole is resisted. The patient will not move the part actively at all. There is usually no atrophy of muscles, and nutrition of the arm and shoulder is good. Despite the great pain, the patient usually eats three good meals a day. In performing the simple test for sensation by pin prick, we find total anaesthesia of the shoulder, arm and hand, together with anaesthesia of the back and chest to the middle line in many cases. Such findings with no atrophy, and the characteristic attitude with lack of any

bony lesions, make the diagnosis practically positive. Sensation tests should never be neglected in the examination of chronic shoulder cases, as without them many cases are overlooked, and a definite traumatic condition is diagnosed, when we have to do with pure hysteria.

The following case illustrates some of the points touched upon in the preceding pages:

CASE 1. M. M., a man of 65 years, was seen for the Massachusetts Industrial Accident Board, on December 26, 1919. The history was that on December 6, 1919, as he was throwing heavy stones into a cart, he twisted his right arm. Since this time he has been bothered by pain, stiffness, and disability of the right arm and shoulder. He was treated by massage and external applications and later a radiograph was taken which was said to be negative for fracture. There has been inability to use the arm for work since the accident. There was no previous trauma to the arm.

Examination showed no obvious atrophy of the shoulder or arm. The grip was somewhat weak, but the patient could close his fingers well into the palm. The bony landmarks of the shoulder were in normal relation, but there was a distinct fullness over the anterior part of the shoulder. There was tenderness to pressure over the anterior shoulder region, but no crepitus or abnormal mobility was detected. All shoulder motions saving adduction were restricted with considerable muscle spasm. Pain on abduction was marked, and the arm could not be raised to a right angle with the body. Sensation was unimpaired.

Clinically, the picture seemed typical of a traumatic subdeltoid bursitis. X-ray examination showed a fracture through the greater tuberosity of the humerus, without displacement.

CASE 2. G. M., a remarkably muscular and well-developed man of 32, was examined for the Board on December 31, 1919. The history was that he was struck on the left shoulder by a bale of cotton on December 2, 1919. He suffered immediate pain in this region, and stiffness and disability has persisted so that work is impossible. The shoulder was immobilized for a short time, but no radiograph was taken of the injured shoulder.

Examination of the shoulder showed no obvious atrophy. The hand grips were the same, and there was no disturbance of sensation. The bony landmarks of the shoulder were in normal relation, there was no abnormal mobility or crepitus detected. The shoulder motions were restricted, but mainly abduction of the humerus, which was painful and restricted to a right angle from the body. There was a tenderness to pressure over the anterior aspect of the shoulder, but it was not very marked. X-ray examination showed a fracture through the greater tuberosity of the humerus without displacement.

CASE 3. Mrs. M. G., was examined for the Board on December 10, 1919. The history was a long one, and dated back for some years. In March, 1914, she was struck on the right arm about the middle third, by a shuttle which weighed about twelve pounds. She was in a cast for three weeks. After this, a course of massage and baking was given, which was kept up for nine months. The arm remained painful and stiff and has remained so. The patient has been unable to do any work since the accident. She says she feels no strength in the arm or hand and has nearly constant pain around the shoulder. She cannot dress herself, and has to take medicine when the pain gets unbearable.

Examination showed a well developed and nourished woman, 71 years of age. There had been no previous accidents and the health had been good up to the time of the accident. The right arm hangs stiffly at the side. Any attempts to move the forearm, elbow, or shoulder provoke exclamation from the patient. There is no grip with the right hand. The thumb is extended and the fingers are semi-flexed. The bony landmarks of the elbow and shoulder are in normal relation. No attempts at passive motion of the arm are allowed. There is no atrophy of the shoulder, arm, or forearm noted, and the skin is in good condition. No attempts at active motion of the arm and shoulder will be made. There is no thickening detected about the humerus. When the patient's attention is distracted by inquiries about her injury, palpation and slight passive motions are possible. Sensation—There is a total anaesthesia to pin prick over shoulder, arm, forearm and hand; anaesthesia is present to the midline in the back down to the line of the dress. There was also anaesthesia to mid-line on the chest, which was not quite so definite.

X-ray examination shows no present evidence of an old fracture of the humerus, and nothing wrong in the shoulder region. At the time of examination there was no wrist drop, nor was there any history of its occurrence. Nevertheless, some time before the diagnosis had been made of musculo-spiral paralysis secondary to injury of the humerus. Such histories and findings as the above are not very uncommon, and it so happens that personally I have seen fully as many of these hysteric manifestations after previous injury in men as in women.

Syphilis plays its part in the etiology of obscure shoulder conditions as well as in other parts of the body. Trauma may at times cause a localization of the specific process, as has been so well pointed out by Churchill in his work on luetic bursitis.

The following case illustrates a phase of the

subject. This might well have been ascribed to repeated slight trauma of work, if certain examinations had not been made.

Case 4. D. G., laborer, 26 years old, was seen at the male surgical clinic, Massachusetts General Hospital. There was no history of trauma beyond the use of his shoulder in his daily laboring work. Six days ago his shoulder became sore. He was unable to raise his arm above the horizontal. Sometimes it can be raised higher, but with great pain. There is steady pain in the shoulder, radiating down the back. No history of injury. Examination showed shoulder motions limited, especially abduction. Much pain on attempt to raise arm above shoulder. No crepitus elicited. Marked tenderness over the right acromio-clavicular joint. Slight swelling of the shoulder. April 16, 1920, Wassermann report, strongly positive. X-ray examination of the shoulder shows definite variation from the normal, at the outer end of the clavicle. The process is in the upper surface, and involves the periosteum and sofe parts, and is almost entirely proliferative. There was no bony atrophy. Trauma, periosteal sarcoma, and gumma of the outer end of the clavicle were considered in the x-ray diagnosis. The clinical findings, together with the positive Wassermann, left no doubt as to the character of the trouble. How much the repeated use of the shoulder in laboring work had to do with the localizing of the process about the right shoulder, is an interesting and complex point to decide.

The question of brachial plexus injuries, after trauma about the shoulder, is one that must always be held in mind. Particularly after fracture of the clavicle, even long after, bony points may cause pressure on the plexus leading to muscle atrophy and disability of the shoulder. Many incorrect diagnoses are made in such cases.

To sum up: We find that subdeltoid bursitis, with injury to the supra-spinatus tendon, unrecognized fracture of the greater tuberosity of the humerus without much or any displacement, and hysteric shoulders form a large part of the general group presented for examination. A careful study of each individual case will usually lead to a correct diagnosis. The treatment of such cases often consumes much time, and patients are easily discouraged, but from our study, we feel that most of them are restored to full work in time.

The next annual meeting of the Massachusetts Medical Society will be held in Boston, Tuesday, May 31, and Wednesday, June 1, 1921.

FRACTURE DISLOCATION OF THIRD CERVICAL VERTEBRA.

By Louis A. O. Goddu, M.D., Boston,

Orthopedic Surgeon to Out-Patient Department of Massachusetts General Hospital; Chief Orthopedic Surgeon to Woonsocket Hospital.

History. Patient injured October 27, 1919. Struck by a bag of wool, hit him in the back of the neck. Patient thrown to floor. Lost consciousness. Revived—found left arm completely paralyzed. Two days later—right arm became paralyzed. Had a great deal of pain in back of neck and left shoulder the first few days. Patient taken home in ambulance. Remained home in this condition for four weeks.

Examined by writer on November 26. Patient had both arms extended along side of body, slightly claw shaped position of fingers; unable to move arms at all but could move terminal phalanges of both hands. Respiration about 45 per minute. Some difficulty in breathing. Was not compaining of any pain. Head motions restricted, particularly laterally. No grip in either hand. Reflexes present but diminished, especially in the left arm. Moderate atrophy of muscles, most about the shoulders on the right, well marked on the left. Sensation on left side of neck, on left shoulder and on left side of chest, to level of second rib was diminished. No pain in lower limb. No changes in reflexes.

Diagnosis made of partial crush of cord with some hemorrhage into ventral horn into left side particularly; edema of cord from compression Diagnosis—fractured dislocation. X-ray—"Forward dislocation of third cervical vertebra on the fourth."

Problems presented in this case seemed to be as follows:

1. Reduction of dislocation.

2. Consideration of what actual disturbance had occurred in cord to give symptoms. Also what part hemorrhage and the edema played in the production of the symptoms.

In considering the first problem, the question of reduction, one had to weigh very carefully the fact that this man, a heavy robust individual, had lain more or less passive on his back and whether or not the giving of an anesthetic might not produce a hyperstatic pneumonia; also whether or not interference would produce a greater trouble with the phrenic nerve which was already involved and embarrassing his breathing.

It seemed to the writer that the problem of an actual replacement four weeks after the injury would be asking too much and such an attempt under an anesthetic either with an open operation or manipulation without an open operation would be fatal. Therefore the following method of treatment was decided upon: Head traction was applied, a six-pound weight attached, and this kept on night and day for three days, when a judicious forcible manipulation in the proper direction in an attempt to reduce some pressure symptoms was made. This manipulation immediately changed the rate of respiration. In another 48 hours another manipulation was given. At this time patient stated that the neck felt better and things were different there. The next day, the patient was able to use right arm with a little bit of help; the effort was there, but the muscles were weak.

Examination December 10. Right arm showed fair strength in fingers, forearm, and hand and weak movement in abduction of the arm from the side and of the external rotators of the humerus. On the left side, the grasp, movements of the fingers, wrist, pronation and supination and extension at the elbow were fair, though weaker than on the right; and flexion at the elbow, abduction and external rotation were a mere trace.

January 7, or little over four weeks after patient's entrance to the hospital, patient was up and dressed. Note on that date states, "Patient is up all day long, feels grateful for his recovery, can use arms in all directions, strength in both arms steadily improved and there is every reason to expect a fairly good return of function."

Patient all this time had been having baking and massage. It would be well to state that an ordinary Thomas collar was made and traction was taken off at the end of the third week. The collar was worn night and day and then a permanent collar of leather and steel made to be worn till such time as the fractured bone would become firm.

The prognosis would seem to be that the patient would have limited rotation of head and both arms; would recover practically normal strength except a slight weakness of the left deltoid.

It would seem this case illustrates the necessary careful treatment in these cases and even with important anatomical reposition such as above x-rays illustrate; but with pressure relieved, return of function is possible and the writer feels reasonably sure that had more radical procedure been done he would not have a patient to tell the tale.

First x-ray taken November 26, 1919, by Dr. Butler:

"There is a forward dislocation of the third cervical vertebra on the fourth. There is no fracture."

(Signed) P. F. Butler.

Second x-ray, taken December 15, 1919:

"There is a dislocation forward at the third cervical vertebra on the fourth. The angulation at the site of dislocation is less marked than at the previous examination. There is also more space now between the third and fourth vertebra, thus relieving the pressure on the cord."

(Signed) P. F. Butler.

From these two reports it can be seen that there was sufficient manipulation to change the relation between the third and fourth vertebral bodies and one cannot help but feel from the subsequent quick reaction in the patient's condition that the manipulation plus traction had a decided effect in this patient's future in making him a useful member to society.

At present writing, November twenty-third, this patient is able to work. He has unusually good motion of both arms in all directions, the strength is a little less in the left arm. On the whole, the man has a remarkably good return of function and is able to be a useful member of society. He has practically full use of both arms and has only slight limitation in rotation and lateral bending of the head.

Clinical Department.

BENIGN GROWTHS OF THE STOMACH. REPORT OF TWO CASES.

By A. S. Merrill, M.D., Boston,

Assistant Roentgenologist, Massachusetts General Hospital.

Malignant growths of the stomach are all too common, and every roentgenologist has frequent occasion to observe and study their characteristics which in most cases are typical, and with the clinical history and physical findings form a pathognomonic picture.

There are a few of the rarer forms of gastric tumors not often enough seen to study fully their characteristics and differentiation from the more common forms.

Excluding local inflammatory indurations, hypertrophic thickenings, varicoses, aneurisms and other thickenings accompanying or following local or constitutional disease, several forms of primary benign growth of the stomach have been noted and reported by various observers. These include polypi, adenomata, lymphadenomata, myomata, fibromata, myxomata, lipomata, osteomata and cysts.

These benign growths are of great surgical and pathological interest. Infrequent, of unknown cause and atypical clinical course, their diagnosis and differentiation are imperfectly known. They are undoubtedly very rare although many probably pass unrecognized or are missed through lack of operative or post-mortem opportunities for observation. They may take their origin from any of the gastric layers. They may remain confined to the structure of their origin or invade other layers. Their form is variable; flat, rounded, nodular or pedunculated. They may be single or multiple. They may occupy any portion of the gastric wall.

Balfour reports one case of polyposis in the Mayo clinic in 69,000 abdominal sections including 8,000 gastric lesions. Tigler found fourteen benign gastric tumors in 3,500 autopsies. Versé reports fifty-five cases of polyp in the digestive tract, four occurring in the stomach. Ebstein reports fourteen polyps of the stomach in 600 autopsies and cites eight from the literature. Of these twenty-two, twelve were solitary. Fenwick in thirty-four cases found 41% solitary. Mentrier classified these tumors in 1888. Meyer in 1913 reported a case diagnosed clinically. Stoner in 1914 made an excellent report of a case diagnosed by him. He says that single polyps are usually near the pylorus and discusses at some length the theories of their cause and origin. He finds that nearly all occur after middle life. All, except two, that came to his knowledge were more than fifty-nine. One was thirty-four and one, thirty-six.

Of the different varieties the mucous polyp is perhaps the most common. Ebstein found fourteen in 600 autopsies. Fenwick in his "Cancer and Other Tumors of the Stomach" finds these to comprise 0.2%. Their etiology is obscure. They have been thought to arise from various chronic irritations of the mucosa although the same factors are rarely found common to several cases. Whether the accompanying catarrhal condition is an etiological factor or a sequel is a disputed question.

The adenomata contain more gland elements, frequently of an intricate and branching structure and appear more closely associated with malignancy. Rarely one meets tumors having all the characteristics of malignant adenomata physically, but of apparently benign structure on pathological examination. Pitt (Tr. Path. Soc., London, 1889), Lange (N. Y. Med. Jour., 1892) and Ferguson report cases. The histological differentiation is difficult and often questionable.

The lymphadenomata are overgrowths of normal lymphoid tissue and are usually found associated with systemic lymphoid increase.

Myomata are generally small and may be single or multiple, pedunculated or mural. The former are said to be found generally in the pyloric end while the latter are more often in the media or near the fundus. Von Erlach, Von Eiselberg and Kunze report large ones from 251 to 4,500 gm. in weight.

Fibromata, single or multiple, are usually found near the pylorus. It is claimed that they are never primary growths but forms of scirrhous carcinoma, fibrosarcoma or fibrous growths on the site of old ulcers.

Lipomata are rare and usually solitary. Of myxomata only three cases have been published. Osteomata are really calcareous deposits in degenerating fibromata or sarcomata. Cysts of several varieties have been described, the most common being retention cysts. Balfour's case, reported last year, was diagnosed by Carman by the peculiar radiographic and radioscopic appearances.

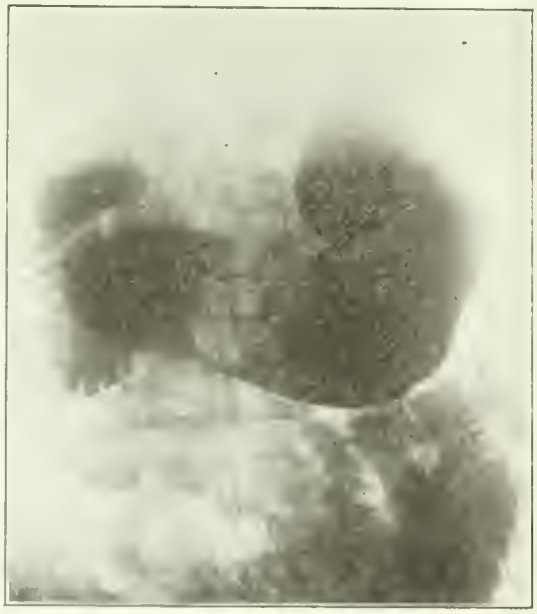
Two cases have recently come under my observation in the clinic at the Massachusetts General Hospital which seem worthy of report.

The first, a case of pedunculated benign tumor, was referred for gastric study because of vague symptoms of weakness and a secondary anaemia of unknown cause, rather than any definite indications of stomach trouble.

I. E. A white man of 73, of excellent past health, complained of gradually increasing weakness beginning about two years ago. At that time he had influenza and pneumonia with good recovery except a persisting loss of strength. Not weak enough to stop work. Appetite good. No nausea, gas, epigastric pain, vomiting, hematemesis, abdominal distress nor icterus. No diarrhea; bloody, tarry nor clay-colored stools. For six or seven weeks noticed swelling of the legs and feet more marked during the day. No oedema elsewhere. During the same period he noticed a sensitiveness to cold at night. Entered hospital to find cause of weakness.

Gastric analysis—Fasting, 10 c.c. thick mucoid, blood streaked. No food particles. Test meal, 5 c.c. watery, blood tinged. Food particles. Free HCl, 0. Total acid, 0.

Blood examination—R.C., 4,064,000. Hgb., 70%. Achromia, slight poikilocytosis, rare polychromatic, increased platelets, increased transitionals. Secondary anemia.



CASE 1.

X-ray examination—Stomach in normal position, action sluggish, tone good, outline regular. Contained a residue of about one-half the meal at six hours. In the antrum, apparently about two or three inches above the pylorus, was a rounded, slightly mottled shadow which displaced the barium contents without completely filling the diameter of the gastric lumen. This shadow seemed to be slightly movable within the outline of the stomach, but not to any great extent. The surrounding gastric walls seemed to be soft and flexible on palpation and the peristaltic wave, though shallow, passed along the whole wall. A diagnosis of pedunculated gastric tumor, probably benign, was made.

Operative findings—"Normal sized stomach. Soft rounded mass within, smaller than a tennis ball, which proved to be a polypoid growth attached to the anterior wall near the greater curvature. Wall of the stomach not infiltrated. Liver normal. No glands. Stomach opened and growth removed by cautery."

Pathological report—"A soft purplish-red tumor measuring 3.5 x 4 x 5 cm. Its surface is rough and granular and it has a soft narrow attachment to the underlying mucous membrane of the stomach. Microscopic examination shows elongated gland tubules which are frequently branching and lined by a single layer of high columnar epithelium. There is a loose connective tissue stroma which contains bands of smooth muscle and is infiltrated with wandering cells. Large plasma cells with hyaline protoplasm are conspicuous. There is no evidence of malignant disease."

The second case, of a somewhat different type, was referred to us by her private physician with symptoms suggesting gastric trouble, but not of a severe nature or typical character.

CASE 2.

A. F. A white woman of 30, in good physical condition, had for about five years felt a slight pain in the stomach followed by nausea, occurring about every two weeks. This appeared

to follow exertion and was followed by vomiting. No history of hematemesis. Saw blood in stool once about three years ago. Slight gas. Bowels regular. Lost about three or four pounds in three months.

X-ray findings—Stomach was low in position. Peristalsis and tone were good. About one-half the barium meal was present in the stomach at six hours. A little above the pylorus a portion of the antrum was occupied and the barium displaced by an oval, sharply outlined, slightly mottled shadow about the size of a hen's egg. It did not present the characteristic defect of an invading growth as is seen with cancer, but was distinctly outlined by a faint trace of barium around its whole periphery. It was situated on the lesser curvature and its border on that side projected a little beyond the width of the antrum. The barium passed around it, occupying along the greater curvature about one-fourth the width of the lumen. The mass could not be displaced within the stomach by palpation. It was visible and had the same characteristics in all positions. A diagnosis of gastric tumor, probably benign, was made.

Operative findings—"Sessile tumor as big as a hen's egg, with small ulcerated depression. Granulation tissue and fibrous material. Excised."

Pathological report—"Specimen from the stomach. An area of the stomach measuring 3.5 x 4 cm. in which there was a small depression, pin-head in size, extending into its mucosa, the underlying walls of which were smooth, soft and greatly thickened. Microscopic examination showed muscle wall replaced by loose fibrous tissue which is quite cell-rich. There is hyperplasia of the mucosa which dips down. Benign tumor with small ulceration."

These cases represent tumors in the stomach of benign nature but of very different characteristics. The first should probably be classified as a polypoid adenoma, while the second has more the characteristics of a fibroma. In both there was no interference with peristalsis. In neither was there any definite involvement of the gastric wall beyond their site, and the obstruction appeared to be mechanical. They were both distinctly visible by mechanical displacement of the opaque material. Both were superficially lobulated, their lobulations giving the shadow a reticulated appearance. Both evidently bled, the first considerably.

In both cases differentiation was necessary from foreign body and food remnants, and a second observation was made to that end. One would expect more mobility in the shadow of a foreign body than was seen in these cases. In the first case malignancy must be seriously considered, but the local nature and absence of definite involvement of the gastric wall which could be well seen on both curvatures, and the slight mobility of the shadow within the gastric outline was unlike the appearance of cancer as usually seen. From malignant polyp or pedunculated malignant tumor the differentiation could be made only by the practical absence of gastric symptoms, the duration, and the slight physical impairment of the patient. The second must be differentiated from ulcer, and the shallow erosion on the surface might be a preëxisting ulcer or an ulceration beginning on a tissue abnormal in structure and of low resistance. The filling defect was atypical of ulcer.

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Edinburgh Royal Infirmary.—It has been announced in the *British Medical Journal* that the report of the managers of the Royal Infirmary of Edinburgh for the twelve months ended October 1, 1920, shows that the total number of in-patients increased from 12,550 to 13,320. The average length of treatment was 24.05 days. In addition to the cases treated in the wards, 48,117 out-patients, most of whom attended several times, received medical and surgical aid and such dressings and surgical appliances as were necessary. During the period under review there was an average waiting list of 889 persons. The ordinary expenditure has exceeded all previous records.

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MATERNITY BILLS BEFORE THE LEGISLATURE.

ON February 24, the Committee on Social Welfare will give a hearing in the auditorium of the State House on the two measures now before the legislature, dealing with maternity benefits. Copies of these bills and of the report of the Maternity Commission may be obtained at the State House or through any Senator or Representative. An abstract of the Commission report has been published in the JOURNAL. Abstracts of the Spencer bill, which will be considered in the morning, and of the Commission bill, which will be considered in the afternoon and evening of the 24th, are printed below.

THE SPENCER BILL.

The Spencer bill (Senate 162) "to protect mothers and children during the maternity period," provides that maternity benefits shall be placed in charge of the State Department of Public Health.

Any woman, a resident of the Commonwealth for a year before her anticipated confinement who applies to the Department and is found "to be without means of providing the ordinary and proper care for herself or infant or both during a reasonable period before, at, and after childbirth," is entitled to the benefits provided, without incurring the stigma of pauperism, and without publicity being giving to the aid received. The bill provides that the applicant shall receive and "must accept such instruction in general hygiene and infant care as the individual case demands, and hospital care or home nursing, or both medicine and medicinal care, and such other obstetrical care as may be necessary."

Furthermore, a cash benefit to be paid directly to the woman of not more than twelve dollars a week is provided when necessary, provided she refrains from gainful employment while this benefit is received.

The recipients of the benefits can choose her own physician and nurse, provided they agree to the fees and regulations established by the Department of Public Health. The physician's fee shall not be less than fifteen dollars for each confinement.

This statement involves the essentials of the bill. Other sections deal with administrative details.

THE COMMISSION BILL.

The bill prepared by the Maternity Commission, which is included with the Report (House No. 1835 of 1920) provides as follows:

"The Department of Public Health is hereby authorized to provide advice, instruction and visiting nursing care to women (resident in the state for six months) during their pregnancy and confinement, and to mothers and their infants after childbirth, regardless of their financial condition."

When "any such woman is in need of aid other than that" already mentioned, it is provided that the commissioner of public welfare or the local authorities shall provide it without the stigma of pauperism.

The Department of Public Health is given authority to make reasonable rules and regulations, which must be obeyed. Nurses may be

employed on full time or on part time, and in the latter case are exempted from civil service rules.

The Department is authorized to disseminate information regarding the objects of the act.

In another column the JOURNAL comments on the relation of the medical profession to these bills. It wishes to point out here the essential differences between the two bills. The Spencer bill is a measure of poor relief. It provides at state expense, nursing, obstetrical care or hospital care, and, if necessary, financial aid, to any poor woman who applies and is found, on investigation, to be deserving. The state is to pay whatever physician and nurse the woman chooses, provided they agree to abide by any rules laid down and accept the established fees. This measure is comparable to others which propose state aid for the deserving poor. It must be considered as a social and economic question, not as a medical question, unless it is shown that the provisions will so improve obstetric and nursing care as to make the matter one of medical importance.

The Commission bill is, in the unanimous opinion of the Commission, the best method of cutting down an unduly high maternal and infant mortality. This is to be done by the state furnishing to any woman pre-natal, obstetric, and post-natal instruction and visiting nursing care. Other aid of whatever sort, if found necessary in any individual case, must be supplied by the proper state or local authorities.

This bill is a health measure. The physician is not mentioned anywhere in the bill, except by implication in the clause last quoted.

The consideration of the bill involves two questions. The first is the medical question, whether the best way to cut down maternal and infant mortality is by supplying visiting nursing care. The Commission says it is because experience elsewhere has shown this to be true. The second question is political and economic. Is this visiting nurse care best supplied by the state? At this latter point many physicians balk. As physicians, we must take steps to cut down mortality if, as is directly stated in the report, it has been done elsewhere. We must accept the remedy suggested in whole or in part or suggest some other remedy which can be shown to be better. Action will be taken soon. The profession should exert some influence in the matter.

THE DUTY OF THE MEDICAL PROFESSION IN REGARD TO LEGISLATION.

THE Massachusetts Medical Society has recently taken two important steps which we feel are in the right direction. At the suggestion of Dr. Mongan, the Joint Committee on Legislation has requested the several district societies to devote one meeting to a consideration of questions of medical interest which come before the legislature. And the Council at its last meeting appointed a special committee to study and report upon all measures, legislative or other, bearing upon maternity and infant welfare. The way is opened for the consideration from the medical viewpoint of the matter before the legislature which most concerns the physician.

These steps followed votes of the Joint Committee and of the Council, respectively, which indicated that the medical profession was very much divided as to the wisdom of supporting a specific bill recommended by the Maternity Commission of the state. Furthermore, the apparent unwillingness of a large proportion of the physicians throughout the state to answer the questionnaire sent out by the Maternity Commission was due in great part to the mixing of medical with social and political questions. It is unfortunate that all physicians did not respond. Yet on calm consideration it is clear that many who were sincerely interested in the medical aspects were deterred from giving their views on social questions about which they were in grave doubt.

The report of the Commission has established certain facts. They have found that the maternal death rate in Massachusetts is about four times as high as in the Maternity Centre established in the poorer and more congested districts of New York City, where at least one month of pre-natal care, adequate obstetrical care, and a month of post-natal care is given each patient.

These facts are very similar to those already pointed out by the JOURNAL, that the mortality is much higher throughout the state than among those women cared for as out-patients of the Boston Lying-In Hospital, where similar conditions hold as in New York as regards pre-natal, obstetric, and post-natal care.

The Commission has expressed certain opinions, the most important being that about 40% of the deaths of mothers and of infants are

preventable. The following sentences from their report (p. 50, Appendix LI) strikes at the root of the matter: "Two-thirds of all maternal deaths result from one of two causes,—septicaemia or albuminuria. Such deaths may be prevented by proper care and treatment, and are practically unknown among the cases treated by the New York Maternity Centre or the Women's Municipal League of Boston." In the opinion of the Commission, these deaths bore no relation to social or economic conditions.

In other words, the problem of lowering maternal infant mortality is a medical problem and more specifically is a problem of insuring to all pregnant women adequate pre-natal, obstetric and post-natal care.

All physicians are absolutely united in their efforts to lower mortality. But there is no reason to expect that all should unite in favor of a specific law, providing that the State shall apply the suggested remedy through the employment of nurses. It may or may not prove that after full discussion and consideration, an overwhelming majority of physicians will come to favor the bill drafted by the Commission. It may prove that the consensus of opinion will swing toward a development of the various existing local hospitals and other agencies whereby they can render better service to the pregnant woman. Other plans may be suggested. The JOURNAL does not express any opinion at present on any specific remedy for a condition which certainly demands a remedy. It merely emphasizes that the medical profession has declined to take a stand on the social and political aspect of a medical question, but that with its hands free it promises to undertake in earnest the consideration from a medical viewpoint of a medical question.

The delay which the profession has asked of the legislature will be justified either by a general support of the bill of the Commission or by constructive suggestions along other lines. In no other way can delay be justified.

MEDICAL NOTES.

FIFTIETH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.—The 50th annual meeting of the American Public Health Association will be held at New York City in November, 1921. The date which is tentatively announced is November 14-18.

It is interesting to note that Dr. Stephen Smith, the founder and first president of the Association, is now entering upon his 99th year. He is still active and vigorous and it is expected will celebrate his approaching centennial together with the semi-centennial of the Association.

The first organization meeting of the Association was held in New York City on April 18, 1872, and that is one of the reasons for selecting New York City for the celebration of the semi-centennial. Other considerations are the convenience to foreign representatives and to Dr. Smith, who lives in New York City; and especially a plan to conduct demonstrations of public health administrative methods in the laboratories, executive offices, garbage disposal plants, and similar centers of public health interest, in which New York City is unsurpassed.

It is expected to present in connection with the celebration a review of the progress of the various branches of public health within the last fifty years. The sectional programs will include: Public Health Administration, Vital Statistics, Laboratory, Food and Drugs, Sociology, Sanitary Engineering, Industrial Hygiene and Child Hygiene.

REST HOUSE FOR NURSES.—A rest house for nurses who have served with the Army, Navy, Red Cross or United States Public Health organization has been opened at Bayshore by the Red Cross. The house is in charge of Miss Mabel Fletcher, a Red Cross nurse who saw service in Italy during the war, and fills the need of a place for nurses who have not recovered from the strain of duty overseas or epidemic service in this country. Nurses taking governmental vocational training courses, those being trained under the Red Cross scholarship arrangement and other nurses who wish to avail themselves of the benefits of the rest house will also be eligible. Application should be Miss Florence M. Johnson, director of the Atlantic Division Nursing Department. The house, a substantial structure with a spacious porch and grounds, will accommodate twenty-six nurses. It is situated on the main street of Bayshore, four minutes from the bathing beach and Great South Bay. An appropriation by National Headquarters of the Red Cross made the project possible.

BOSTON AND MASSACHUSETTS.

The East Boston Medical Society.—The East Boston Medical Society held its annual election of officers on January 20. The following officers were elected: President, Dr. J. Danforth Taylor; Vice-President, Dr. S. Willard Coy; Treasurer, Dr. A. L. McLaren; Secretary, Dr. Ernest L. Booth.

Week's Death Rate in Boston.—During the week ending February 5, 1921, the number of deaths reported was 231 against 408 last year, with a rate of 15.90 against 26.32 last year.

The number of cases of principal reportable diseases were: Diphtheria, 71; scarlet fever, 78; measles, 54; whooping cough, 32; tuberculosis, 49.

Included in the above were the following cases of non-residents: Diphtheria, 8; scarlet fever, 2; tuberculosis, 6.

Total deaths from these diseases were: Diphtheria, 6; scarlet fever, 1; typhoid fever, 1; tuberculosis, 15.

Included in the above were the following cases of non-residents: Diphtheria, 3; typhoid fever, 1; tuberculosis, 3.

Encephalitic lethargica cases, 6; deaths, 3.

Bequests to Medical Institutions.—By the will of the late Miss Sarah M. Fay of Boston, bequests have been made to the following medical institutions: Waltham Baby Hospital, $2,000; Cottage Hospital, Springfield, N. S., $7,000; Boston Nursery for Blind Babies, $20,000; Thomas Morgan Rotch, Jr., Memorial Hospital for Children, $2,000; Perkins Institution and Massachusetts School for the Blind, $1,000; the Convalescent Home of Children's Hospital, $10,000; New England Hospital for Women and Children, $2,000.

Miscellany.

RESOLUTIONS ON THE DEATH OF DR. SAMUEL J. MELTZER.

The scientific staff of the Rockefeller Institute for Medical Research has expressed profound grief for the death of Dr. Samuel J. Meltzer. At a meeting on November 12, 1920, it was resolved: That an expression be recorded of the sense of great loss which his passing away has occasioned.

Dr. Meltzer has been associated with the institute from the time of its inception. His great learning, his devotion to medical science, his love for his fellow men continuously prompted the expenditure of his utmost effort in the causes to which the labor of the institute is dedicated. In this service he spent wholeheartedly the last sixteen years of his life, and in this service, in the fulness of his powers, he has died. He did not know how to spare himself in the devotion of his life to this great purpose.

The staff of the institute is conscious, however, not only of his service to the idea of the institute, but delights to recall the direction and purpose his inspiration gave to the development of medicine and medical research in the United States. His leadership and his contributions are second to the contributions of no other man in their significance for this generation of medical men. Dr. Meltzer's interest in humanity transcended the field of his medical activities. In the spirit of human coöperation he desired to include all men, so that there might flow, across the boundaries of nations, a desire for progress in the direction of universal ideals. These great interests were recognized, not only in this country, but in Europe as well, and gave Dr. Meltzer a unique position as a lover of his kind.

These are the thoughts which the staff desires to record. They indicate how widely the influence of Dr. Meltzer was spread, how intensely his example was appreciated here.

The staff desires to convey its profound sympathy to the family of Dr. Meltzer, and in this resolution to acquaint them with a measure of the regard in which he was held. For the staff, Dr. Meltzer has not died; by the spirit of his example, he has helped to make the spirit of the institute, and this spirit will continue while the institute endures.

Correspondence.

DIPHTHERIA ANTITOXIN IN CHELSEA.

East Boston, January 25, 1921.

Mr. Editor:—

I should like to caution brother practitioners living outside of Chelsea to carry a supply of diphtheria antitoxin with them when called upon to treat patients in Chelsea. This is my experience: It was necessary for me to use antitoxin in a very severe case of diphtheria in Chelsea, and the only place there where the Board of Health keeps a supply of it is in the Chelsea police station. I sent a boy to the station, with a note for some antitoxin, and the answer came that they have none for outside physicians. As it was rather late in the evening and very cold, and as I did not have my automobile with me, I certainly spent a busy hour begging some antitoxin from my brother practitioners of Chelsea, and I finally obtained a very small amount. As this was my second similar experience in Chelsea (the first refusal being on account of "having none on hand"), I might state that the interests of Chelsea practitioners are well guarded against foreign invasion.

Yours truly,

R. Guralnick.

USE OF BENZYL BENZOATE FOR AFTER PAINS.

Allston, Mass., February 1, 1921.

Mr. Editor:—

While I am not an enthusiast over new drugs and new treatment, I think I have found a new field for the much discussed benzyl benzoate. I hold no brief for the drug and never used it till its adoption to the N. N. R., nor do I consider its use in this one case of much import. However, since I have seen no previous report of its use in this connection and do feel that it was a help in this case, I am offering the JOURNAL, a brief report, simply in the spirit of wanting to pass along what, at present, seems like a good thing.

Very respectfuly,

LAWRENCE C. CHISHOLM.

AFTER PAINS RELIEVED BY BENZYL BENZOATE. REPORT OF A SINGLE CASE. By LAWRENCE C. CHISHOLM, B.S., M.D., ALLSTON, MASS.

Patient aged 24.

Three children dead, one miscarriage, one son, age three, living and well.

Sixth pregnancy normal throughout.

January 26, 1921. Normal delivery of twin girls, single placenta, two membranes. One membrane formed a caul about the first child and the other was delivered entire with the placenta. Time of deliveries: 9.50 and 10.10 P.M. The placenta was delivered a few seconds after the second child.

January 28, 12.15 P.M. Mother suffering with after pains of average severity. Given benzyl benzoate, five drops every four hours; 7 P.M., patient said she was much relieved by the medicine. Dose increased to seven drops.

January 27. Patient in good condition and still getting relief from the medicine for three hours after each dose. Dose not increased but interval changed to three hours.

TRANSPORTATION OF HABIT-FORMING DRUGS.

New York, January 24, 1921.

Mr. Editor:—

I am sending you for publication a copy of a letter sent to Senator Jones expressing the opposition of the Public Health Committee of the New York Academy of Medicine to the proposed measure which prohibits the exportation from and transit through the country of habit-forming drugs and restricts importation to such amounts of crude opium and cocoa leaves as the United States Public Health Service may determine.

The Committee is opposed to the bill for the following considerations:

1. The government regulation would create a dearth of drugs and concomitant increase in price.

2. Smuggling will be encouraged, the drug addicts will continue to be supplied through illicit channels and legitimate medical requirements will suffer.

3. A monopoly of production of morphine, codeine, and cocaine will be created as importation will be limited to crude products only.

4. The desired protection of drug habitués in foreign countries could be obtained if the existing law be amended in conformity with the provision of the Hague Convention of 1912, limiting exportation to such persons in foreign countries as possess permits for the importation of the drugs.

Will you please give this letter publicity in your next issue.

Very truly yours,

E. H. LEWINSKI-CORWIN,
Executive Secretary

My dear Senator:—

The Public Health Committee of the New York Academy of Medicine has given a great deal of consideration to your bill, No. 4553, which prohibits the exportation from and transit through the country of habit-forming drugs and restricts imports to such amounts of crude opium and cocoa leaves as the United States Public Health Service may determine.

The Public Health Committee is in full sympathy with the motive of this bill but desires to point out certain difficulties which would arise if this bill were enacted into law.

1. To entrust to official discretion the determination of the amount of crude drugs to be imported into the United States for medicinal purposes is likely to result in there being no reserve for unforseen emergencies: first, because of the limitation of the supply; and secondly, because of the probable deflection of a certain amount into illicit channels, creating a dearth of the drugs for legitimate medical purposes and resulting in a great deal of suffering.

2. The limitation of imports, as proposed, will create a tendency to smuggling with which, in view of the difficulty of tracing small amounts which could be sent in letters and other ways, it would be exceedingly difficult for even a large force of custom house officials to cope. In other words, legitimate users would be handicapped while those whom we try to protect will not be benefited by the legislation.

3. If the present law should be amended to incorporate the provisions of article 13 of the Hague Convention of 1912, that is, to limit the exportation of drugs to such persons in foreign countries who have special authorization or permits from their respective governments for the importation of the drugs in question, sufficient control would have been provided for the protection of the drug habitués in foreign countries and, moreover, this would be more in accordance with the provisions of the aforesaid treaty than the complete prohibition of exports.

4. The limitation of imports to but crude opium and cocoa leaves would mean that no morphine, codeine, cocaine, and other preparations could be obtained in this country except of local manufacture which would be a trade protective measure of an extreme character and it will inevitably tend to increase the price of these products for legitimate purposes.

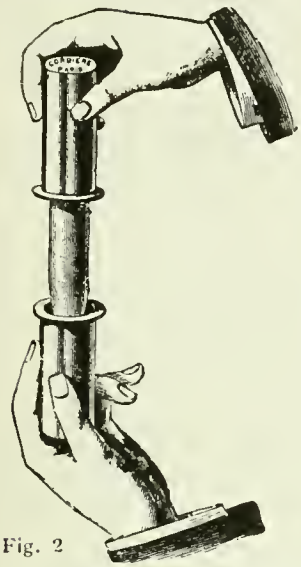
These are the principal reasons why the Committee is opposed to the bill as proposed by you. In the opinion of the Committee, such a law will only be unduly restrictive on those who will legitimately have to use the drugs and it will not in any way change conditions it is intended to ameliorate.

We sincerely hope that you will give thoughtful consideration to the objections raised by the committee.

RECENT DEATHS.

DR. CHESTER CHARLES BECKLEY, a Fellow of the Massachusetts Medical Society, a practitioner of Lancaster, Mass., died at the Clinton Hospital on February 4, 1921, aged 45 years. He was graduated from the University of Vermont College of Medicine in 1898 and settled in Lancaster the following year. He was in the Medical Corps during the late war, holding the rank of major while overseas.

THE COMBINED TREATMENT OF SYPHILIS BY



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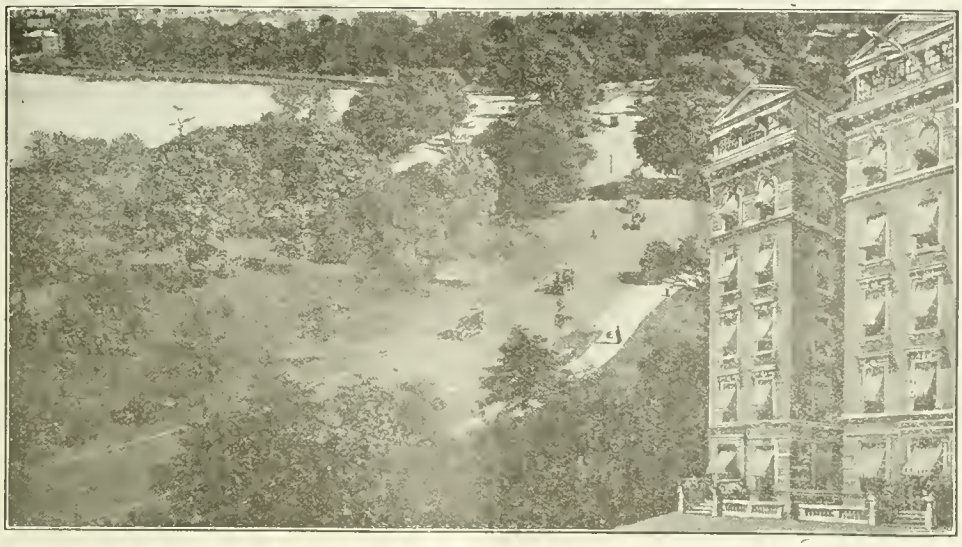

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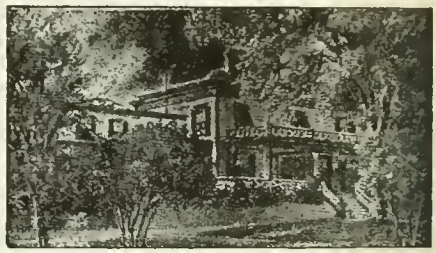

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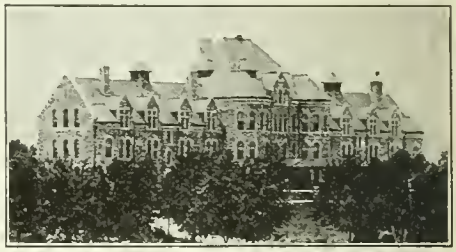

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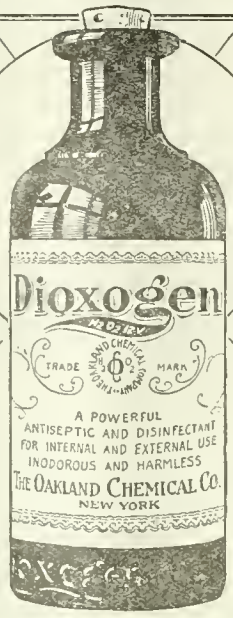

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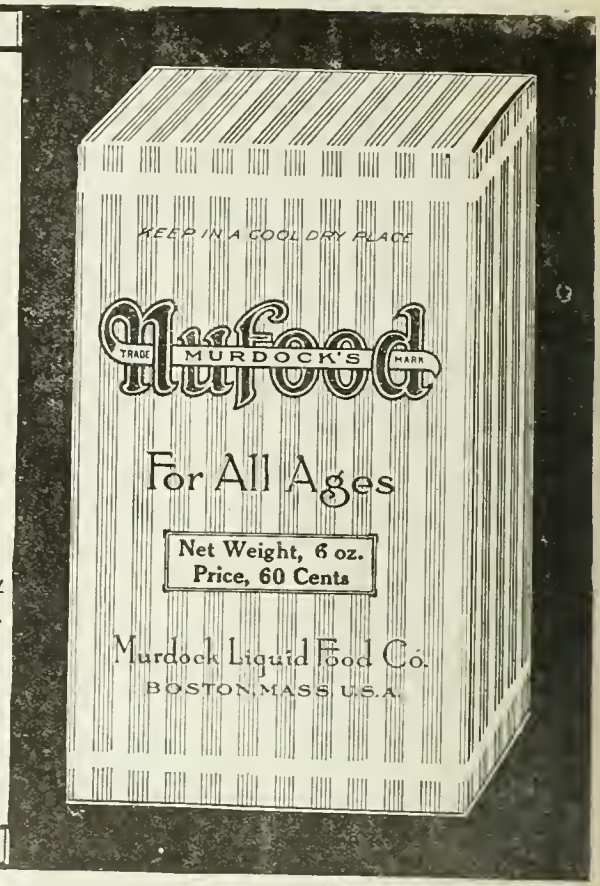

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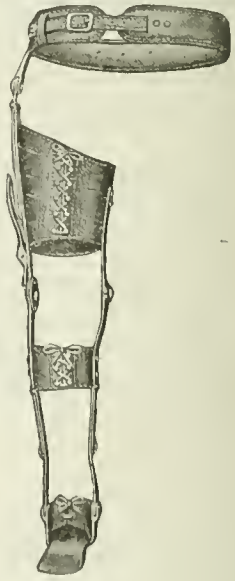

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